

Sangamon County Multi-jurisdictional Natural Hazards Mitigation Plan



**City of Auburn
Village of Buffalo
Village of Cantrall
Village of Chatham
Village of Curran
Village of Dawson
Village of Divernon
Village of Illiopolis
Village of Jerome
Village of New Berlin**

**Village of Pawnee
Village of Pleasant Plains
Village of Riverton
Village of Rochester
Village of Sherman
Village of Southern View
City of Springfield
Village of Thayer
Village of Williamsville
County of Sangamon**

August 2008

Sangamon County Multi-jurisdictional Natural Hazards Mitigation Plan

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August 2008

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** Members of the Project Prioritization Committee (advisor: Jared Owen)

MISSION STATEMENT
Sangamon County Multi-jurisdictional Natural Hazards
Mitigation Plan Task Force
(adopted November 14, 2007)

The mission of the Sangamon County Multi-jurisdictional Natural Hazards Mitigation Plan Task Force is to reduce the impact of natural hazards on citizens, infrastructure, private property, and critical facilities through a combined effort of communities, institutions, and citizenry to develop a mitigation action plan that will be adopted and implemented by each participating community.

Natural Hazards Being Considered

Dam failure
Drought
Earthquake
Extreme heat
Flood
Mine subsidence
Severe storm
Tornado
Winter storm

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Introduction

Why a Mitigation Plan?

Communities look to protect the health, safety, and welfare of their citizens. Related to natural hazard events this has traditionally meant responding to the needs of the community after an event occurs. Mitigation looks to reduce the need for response by permanently removing people and structures from harms way when a known area of impact can be identified (such as a floodplain) or significantly reducing the impact from a known risk (such as a tornado). This Plan provides an assessment of the risks to Sangamon County from natural hazard events and a comprehensive range of mitigation projects to lessen the impact of these hazards on our communities. With the availability of mitigation grant funding from the Federal Government, communities have the opportunity to implement mitigation projects that would not otherwise be financially possible. The preparation of this plan follows the guidelines to make participating communities eligible to apply for mitigation grant funding.

Community Participation in Plan Development

The criteria that would constitute satisfactory participation in the planning process were established at the first meeting of the Sangamon County Multi-jurisdictional Natural Hazards Mitigation Plan Task Force. Figure 1 shows the required participation elements established. The Village of Grandview originally signed on to the Plan but did not satisfy participation requirements. All other communities met these requirements.

Figure 1 Criteria for Participating Communities

Attended a minimum of 4 meetings (2/3 of 6 total meetings)
Submitted a list of relevant community documents
Confirmed hazards that affect community
Submitted a description of critical facilities at risk
Submitted a description of land use patterns
Developed goals for the community
Developed mitigation actions for the community
Prioritized mitigation actions
Hosted opportunities for public involvement
Reviewed and commented on draft plan

Sangamon County is located in Central Illinois, an area of generally flat topography with prime agricultural soils. The urbanized area includes Springfield, location of the state capitol, and several smaller communities. The outlying villages are rural in character and the outlying unincorporated areas are agricultural. Of the 26 municipalities in the County, 19 have participated in this Plan along with Sangamon County. Socio-economic data on these communities is shown in Figure 2.

The 2017 population projections are based on trends seen from the 1990 Census to the 2000 Census. Several communities are experiencing a fairly stable population base including Buffalo, Cantrall, Dawson, Divernon, Illiopolis, Jerome, Southern View, and Thayer. Communities expected to continue a trend of increasing population are Auburn, Curran, New Berlin, Pawnee, Pleasant Plains, Riverton, Rochester, Sherman, Springfield, and Williamsville. The projected decrease in the population of unincorporated areas of Sangamon County will be due to the annexations of land to accommodate the population growth of municipalities and the annexation of developed land that is contiguous to the City of Springfield, particularly around Lake Springfield, as a condition of providing city public water services.

Figure 2 Socioeconomic Data of Participating Communities

Community	Population*	Anticipated Population in 10 Years**	Number of Housing Units*	Median Household Income*	Number of Students in Schools
Auburn	4,317	4,835	1,753	\$43,250	1,270
Buffalo	491	477	208	\$36,250	632
Cantrall	139	138	55	\$45,000	555
Chatham	10,260	12,084	3,165	\$60,350	3,520
Curran	249	328	100	\$49,219	0
Dawson	466	457	197	\$51,250	0
Divernon	1,201	1,248	516	\$43,750	270
Illioopolis	916	884	390	\$46,442	377
Jerome	1,414	1,453	727	\$41,974	0
New Berlin	1,030	1,183	459	\$41,635	572
Pawnee	2,647	2,709	1,086	\$50,787	714
Pleasant Plains	777	817	317	\$46,053	406
Riverton	3,048	3,286	1,311	\$45,531	1,531
Rochester	2,893	3,219	1,099	\$62,891	2,065
Sangamon County (unincorporated)	37,106	33,850	15,323	\$42,957	1,502
Sherman	2,871	4,036	989	\$71,393	647
Southern View	1,695	1,688	841	\$37,964	212
Springfield	111,454	122,855	53,733	\$39,388	19,848
Thayer	750	740	288	\$42,031	0
Williamsville	1,439	1,519	555	\$50,238	759
TOTAL	185,163	197,806	83,112	\$948,353	34,880

* 2000 Census (except Chatham population which is from a 2005 Special Census)

** 2017 projection (SSCRPC)

Major employers for each community are shown below.

Figure 3 Major Employers in Participating Communities

Community	Major Employers
Auburn	Dickey-John Corp., Springfield Plastics, Auburn School District, Beatty Implement Co., City of Auburn, Heritage Chevrolet
Buffalo	Tri-City School District
Cantrall	Athens Community Unit School District #213
Chatham	Ball Chatham School District, Village of Chatham
Curran	Brandt Consolidated, Crazy Horse
Dawson	None
Divernon	Auburn School District, Illini Community Bank, Village of Divernon, Panhandle Eastern, Route 104 Travel Center
Illiopolis	Sangamon Valley School District
Jerome	Shop N Save
New Berlin	New Berlin School District, Brandt Consolidated, Inc., New Berlin Travel Plaza, Farmer's Elevator
Pawnee	Bank of Pawnee, Pawnee Foods, Pawnee School District
Pleasant Plains	Pleasant Plains School District, Brandt Consolidated, Inc., Boesdorfer Trucking, The Grainery, Pleasant Plains State Bank, South County Publications
Riverton	Riverton Public School District
Rochester	Rochester Public School District, Village of Rochester, Village Market, Rochester State Bank
Sangamon County (unincorporated)	Illinois Department of Natural Resources, Illinois Department of Agriculture, Illinois Department of Transportation, Agriculture
Sherman	Villa Health Care, Sherman Elementary School, Carter Bros. Lumber, Springfield Clinic
Southern View	Southern View Elementary School
Springfield	State of Illinois, City of Springfield, Memorial Medical Center, St. John's Hospital, Horace Mann
Thayer	None
Williamsville	Williamsville School District, Donley, Inc., Williamsville Farm Co-op, Patterson Bros. Oil, Williamsville State Bank

Geography and floodplain information is shown in Figure 4. All communities that participate in the National Flood Insurance Program (NFIP) recognize the mitigation value of floodplain management and are committed to continued compliance with the NFIP. Only Sangamon County participates in the Community Rating System.

Figure 4 Geography of Participating Communities

Community	Square Miles of Land Area	Major Geographic Features	FEMA Floodplain	Nat'l Flood Insurance Participant*	NFIP Community Number
Auburn	3.6	None	Yes	Yes	170944
Buffalo	0.3	None	No	No	171056
Cantrall	0.2	None	No	No	171046
Chatham	5.8	Polecat Creek, Sugar Creek, Grindstone Creek	Yes	Yes	170601
Curran	1.9	None	No	No	
Dawson	0.8	None	No	No	171047
Divernon	0.9	Brush Creek	Yes	Yes	170949
Illioopolis	0.4	None	No	No	171049
Jerome	0.4	Jacksonville Branch	Yes	Yes	171004
New Berlin	1.0	None	No	No	171052
Pawnee	1.5	Henkle Branch, Horse Creek	Yes	Yes	170602
Pleasant Plains	1.0	Branch of Richland Creek	Yes	Yes	170798
Riverton	2.0	Sangamon River	Yes	Yes	170603
Rochester	2.5	South Fork Sang. River, Black Branch	Yes	Yes	170840
Sangamon County (unincorporated)	780.2	Sang. River, Lake Spfld., Various Branches / Creeks	Yes	Yes	170912
Sherman	3.1	Sangamon River	Yes	Yes	170969
Southern View	0.5	None	No	No	171051
Springfield	64.0	Lake Spfld., Washington Park, Various Creeks / Branches	Yes	Yes	170604
Thayer	0.8	Sugar Creek	Yes	Yes	170804
Williamsville	1.4	None	Yes	Yes	171041

* "Yes" indicates the community participates in the National Flood Insurance Program making flood insurance available to property owners.

Chapter 1 Planning Process

How the Plan Was Prepared

Preparation of the Sangamon County Multi-jurisdictional Natural Hazards Mitigation Plan was facilitated by the Springfield Sangamon County Regional Planning Commission and developed through the Sangamon County Multi-jurisdictional Natural Hazards Mitigation Plan Task Force. The Task Force met six times, on the second Wednesday of the month in October and November 2007 and January, February, April, and June 2008. Two committees were formed for specific tasks and reported back to the full Task Force. The Risk Assessment Committee met on October 18, 2007 and the Project Prioritization Committee met on March 5 and April 21, 2008. A synopsis of each meeting and any intervening activities follows.

August 24, 2007	Invitations to participate in the plan were sent to all communities in Sangamon County.
September 10, 2007	Invitations to participate on the Task Force were sent to identified technical partners and citizens.
October 10, 2007	Task Force Meeting 1 An orientation to the purpose of the Task Force and the planning process was presented. Community participation requirements were established. Thoughts on a mission statement and citizen survey were presented. A Risk Assessment Committee was formed. A meeting schedule was established.
October 18, 2007	Risk Assessment Committee Meeting The natural hazards that should be addressed in the plan were determined. The methods to profile hazard events, inventory assets, and estimate losses were decided.
November 14, 2007	Task Force Meeting 2 A report from the Risk Assessment Committee was presented. A mission statement was adopted. A citizen survey was finalized.
January 3, 2008	A profile of each natural hazard being considered (prepared by the Planning Commission) and a summary of the citizen survey responses were sent to Task Force members.
January 9, 2007	Task Force Meeting 3 The Task Force broke out into small groups, including any members of the general public in attendance, facilitated by Planning Commission staff to generate ideas for goals and objectives.
February 4, 2008	A draft of the goals and objectives based on the ideas generated at the January 9 meeting was sent to Task Force members.
February 13, 2008	Task Force Meeting 4 A consensus was reached on the goals and objectives of the plan. A presentation on hazard mitigation grant programs was given by the State

Hazard Mitigation Officer. Task Force members and members of the general public in attendance generated ideas for hazard mitigation projects for specific objectives. Those in attendance then divided into four groups, facilitated by Planning Commission staff, to address projects listed for each goal. A Project Prioritization Committee was formed.

- March 5, 2008 Project Prioritization Committee Meeting 1
The Committee created a method for prioritizing projects.
- April 9, 2008 Task Force Meeting 5
A report from the Project Prioritization Committee was presented and the proposed method for prioritizing projects was adopted. The process for maintaining the Plan was discussed and a Workgroup formed to monitor, evaluate, and update the Plan after adoption by the communities.
- April 21, 2008 Project Prioritization Committee Meeting 2
The Committee assigned a priority classification to all projects to be included in the Plan.
- May 21, 2008 A draft copy of the Plan was distributed to Task Force members and made available for public review.
- June 11, 2008 Task Force Meeting 6 – Public Meeting
A recap of the planning process was given and public comments on the Plan were taken. Five members of the public provided input. After Task Force member discussion the Plan was finalized.

The Planning Team

The Plan Author, the Springfield Sangamon County Regional Planning Commission, received a planning grant through the Hazard Mitigation Grant Program to prepare this plan and coordinated plan preparation and participation. Linda Wheeland, Senior Planner/Certified Floodplain Manager led development at the Staff level.

All communities in Sangamon County were invited to participate in the Sangamon County Multi-jurisdictional Natural Hazards Mitigation Plan. (A small portion of the City of Virden is located in Sangamon County and that community was also invited to participate but did not choose to do so.) Following is a list of the communities, with those participating shown in bold.

Auburn	Grandview	Riverton
Berlin	Illio polis	Rochester
Buffalo	Jerome	Sherman
Cantrall	Leland Grove	Southern View
Chatham	Loami	Spaulding
Clear Lake	Mechanicsburg	Sangamon County
Curran	New Berlin	Springfield
Dawson	Pawnee	Thayer
Divernon	Pleasant Plains	Williamsville

(Although Grandview initially signed on to the plan, by failing to have a representative attend at least 2/3 of the meetings and failing to submit the necessary information, the Village did not meet the requirements for participation.)

Figure 5 on the next page is a map showing the jurisdictions of participating and non-participating communities.

To confirm their intent to be a part of the plan each participating community submitted a resolution passed by their Board of Trustees/City Council authorizing the Planning Commission to prepare the plan on their behalf and the President/Mayor appointed a representative to the Task Force. Copies of these documents are in Appendix A.

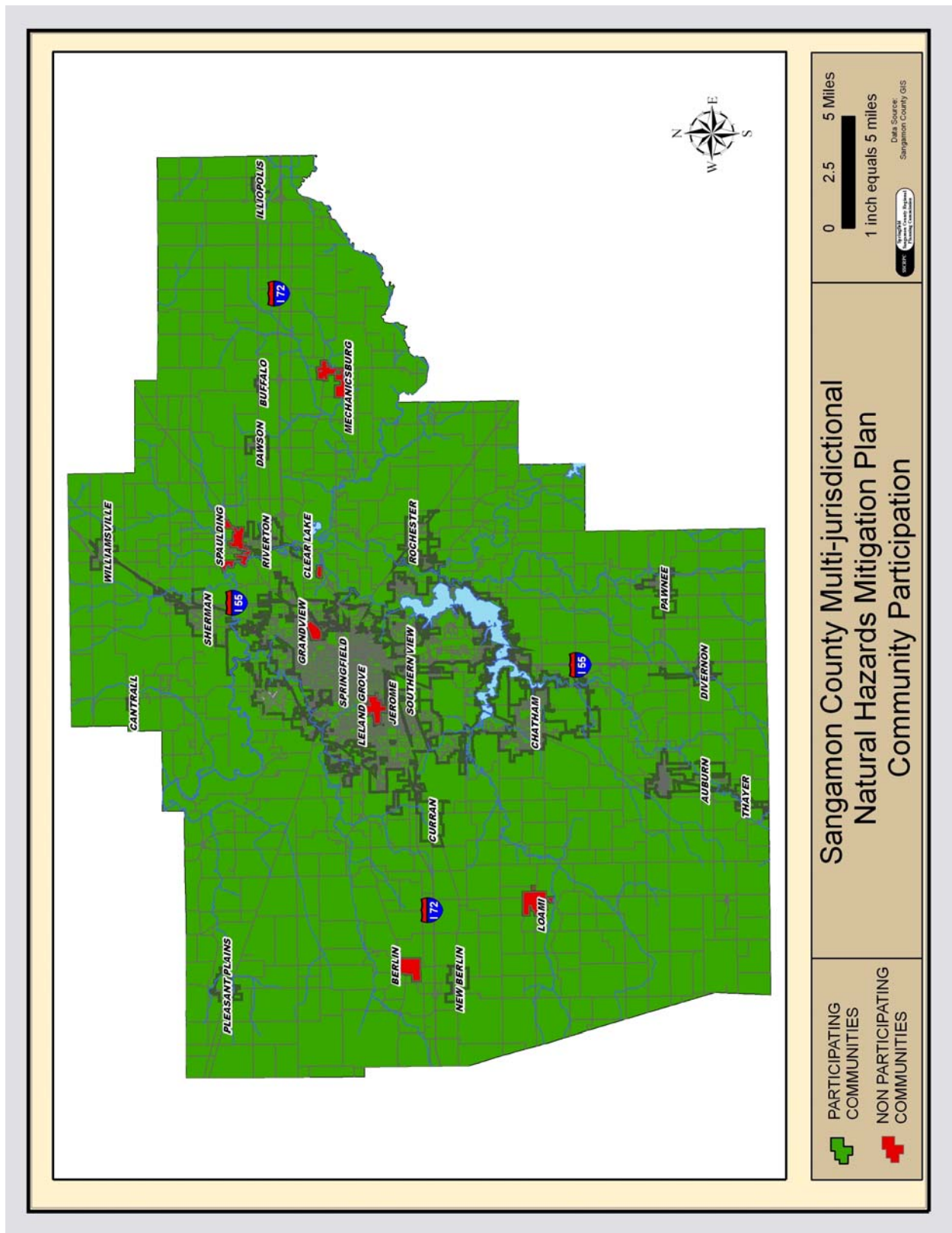
Because it was recognized that there are many people in our communities with expertise that would benefit this planning effort, a letter of invitation to be a member of the Task Force was sent to the following agencies. Those shown in bold agreed to participate and appointed a representative using the form in Appendix B.

Abraham Lincoln Capital Airport
Ameren
City Water, Light and Power
Greater Springfield Area Chamber of Commerce
Illinois Capital Chapter of The American Red Cross
Illinois Emergency Management Agency
Illinois Medical District at Springfield
Lincoln Land Community College
Sangamon County Department of Public Health
Sangamon County Department of Zoning and Building Safety
Sangamon County Farm Bureau
Sangamon County Highway Department
Sangamon County Office of Emergency Management
Secretary of State
Springfield Black Chamber of Commerce
Springfield Building and Zoning Department
Springfield Department of Public Works
Springfield Area Home Builders Association
Springfield Park District
Springfield Mass Transit District
Springfield Metro Sanitary District
Springfield School District 186
State of Illinois Central Management Services
State of Illinois Department of Agriculture
State of Illinois Department of Transportation
University of Illinois at Springfield

Four citizens were also invited to participate and three accepted.

Everyone on the Planning Team participated fully in development of the Plan by attending meetings, providing input through discussion and group exercises, reviewing documents, and voting on issues coming before the Task Force.

Figure 5 Jurisdictions Covered by Plan



Public Participation

The importance of public participation in the planning process was recognized by the Task Force. Efforts to educate the public regarding creation of the plan and to provide opportunities for the public to have input on the plan were an integral part of the planning process. These efforts are discussed below.

Plan Website	A website for the Sangamon County Multi-jurisdictional Natural Hazards Mitigation Plan was online August 24, 2007 and was updated by the Regional Planning Commission on a regular basis. Information available on the website includes natural hazards profiles, pertinent documents, meeting agendas and minutes, press releases, task force member list, meeting dates, relevant links, and a contact link to the Planning Commission staff. The website address is www.co.sangamon.il.us/NHMP .
Community Websites	Each participating community with a website included information regarding the plan and provided a link to the plan website.
Press Releases	Press releases were sent to local television, radio, and print media to announce the awarding of the planning grant to the Planning Commission and prior to each task force meeting. An example of a press release is in Appendix C.
Poster	A 3' x 4' poster was created to inform the public about the Sangamon County Multi-jurisdictional Natural Hazards Mitigation Plan and the Task Force. A reduced version of the poster is in Appendix D. The poster was displayed at Lincoln Library (Springfield's public library), both of Springfield's municipal buildings, the Sangamon County building, both County Health Department buildings, at selected locations in all participating communities, and at the locations of some task force member agencies.
Citizen Survey	A survey was made available on the plan website and through all the communities from November 15 through December 21, 2007. The surveys were made available wherever the poster was displayed. A copy of the survey is in Appendix E.
Task Force Meetings	Every Task Force meeting agenda included a time for public comment. Also, members of the public who attended any of the Task Force meetings were included in the activities of the meeting including the small group exercises to develop goals and objectives and to generate mitigation project ideas. A total of 12 individuals who were not Task Force members attended at least one Task Force meeting. Several people attended more than one meeting.
Agendas	Agendas for each meeting were posted outside the Planning Commission Office and in the main hallway of the Sangamon County building as well as on the Plan website. They were also mailed or e-mailed to people requesting to be kept updated on the work of the Task Force.

Newspaper Articles	Five articles appeared in the State Journal Register, the regional newspaper. The articles are in Appendix F.
Radio Coverage	Springfield radio station WTAX carried 3 interviews with the Plan Project Manager. A page from the station's website is in Appendix G.
Presentations	<p>The Plan Project Manager gave a presentation on the plan to the Local Emergency Planning Committee on January 17, 2008. A copy of the meeting agenda is in Appendix H.</p> <p>Reports on the progress of the plan were made to the Springfield Sangamon County Regional Planning Commission at their monthly meetings. One copy of meeting minutes is in Appendix I.</p> <p>Communities discussed the plan at Board of Trustees/City Council meetings. One copy of meeting minutes is in Appendix J.</p>
Direct Mailings	<p>As part of Sangamon County's Community Rating System project a letter is sent to every owner of floodprone property in the unincorporated areas of the County each year. The letter sent in September 2007 included a note on the Natural Hazards Mitigation Plan. A copy of the letter is in Appendix K.</p> <p>On October 18, 2007 a memo was sent to those parties believed to have an interest in the development of a natural hazards mitigation plan. A list of those parties is in Appendix L.</p>
Public Hearing Notice	At the final (June 11, 2008) meeting of the Task Force a public hearing was held to receive comments on the draft plan. A notice was placed in the State Journal Register inviting citizens to attend the meeting. A copy of the notice is in Appendix N.

Participation Opportunities for Interested Parties

Opportunities for neighboring communities, agencies, businesses, academia, nonprofits, and other interested parties to be included in the planning process were provided by direct invitation to serve on the Task Force (see list on page 7), by direct notification of the planning process via letter (see list in Appendix L), and through the many other public participation activities listed above.

Review and Incorporation of Existing Plans, Studies, Reports, and Technical Information

At the first Task Force meeting the community representatives were given a Documents Form to be completed (see Appendix M) in consultation with the leaders in their community, providing them with a list of plans and other documents that should be considered during preparation of the plan. Natural hazards mitigation can be incorporated into existing plans and ordinances during updates. If a community does not have particular regulations that would promote hazard mitigation, such as building codes, these could be considered for adoption. Other documents could provide helpful information for assessing risks or determining appropriate mitigation projects. A combined listing of community documents is shown in Figure 6.

Some examples of how these documents were used to coordinate with the Natural Hazards Mitigation Plan are: the Village of Sherman is incorporating natural hazard mitigation planning into the update of their comprehensive plan which is underway; other communities will incorporate hazard mitigation planning into future comprehensive plan updates; the County realized their response plan did not adequately involve the smaller communities and is taking steps to correct that situation; the Village of Williamsville now plans to adopt building codes; and the City of Springfield realizes that an emergency action plan is needed to address the possibility of dam failure on Lake Springfield.

Figure 6 Existing Community Documents

Document	Auburn	Buffalo	Chatham	Cantrall	Curran	Dawson	Divernon	Illioopolis	Jerome	New Berlin	Pawnee	Pleasant Plains	Riverton	Rochester	Sherman	Southern View	Springfield	Thayer	Williamsville	Sangamon County
Comprehensive Plan	X	X	X							X	X		X	X	X		X		X	
Subdivision Ordinance	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Zoning Ordinance	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Zoning Map	X	X	X	X		X	X		X	X	X	X	X	X	X	X	X	X	X	X
Building Codes	X	X	X			X	X		X	X	X		X	X	X	X	X			X
Land Use Plan			X			X				X			X		X	X	X		X	
Existing Land Use Map	X		X			X				X			X		X		X		X	
Flood Ordinance	X		X				X		X	X	X	X	X	X	X		X	X	X	X
Flood Insurance Rate Map	X		X				X		X	X	X	X	X	X	X		X	X	X	X
Flood/eng. studies for streams	X		X		X				X	X			X							
Flood Insurance Claims List											X		X							
Repetitive Flood Loss List											X		X							X
Elevation Certificates for Bldgs													X							X
Capital Improvement Plan							X			X							X			
Historic Preservation Ordinance																	X			X
Stormwater Management Plan									X	X	X		X	X	X	X	X			X
Hazard Mitigation Plan			X			X														X
Emergency Management Plan	X	X	X			X	X			X	X		X	X	X		X			X
Drainage Ordinance	X		X					X		X	X	X		X	X	X	X			
Critical Facilities Map						X		X					X				X			X
Hazard Vulnerability Analysis			X														X			
Infrastructure Map	X	X	X	X		X			X	X	X	X	X	X	X	X		X		
Topographic Map			X	X	X	X			X	X		X	X		X				X	
Other														X						
Community Website	X				X	X	X	X	X	X	X		X		X	X	X		X	X

Chapter 2 Risk Assessment

Description of All Natural Hazards Affecting Sangamon County

The 2007 Illinois Natural Hazard Mitigation Plan identifies seven hazards that affect Sangamon County: droughts, earthquakes, extreme heat, floods, severe storms, tornados, and winter storms. The Risk Assessment Committee of the Sangamon County Multi-jurisdictional Natural Hazards Mitigation Plan Task Force determined that mine subsidence and dam failure should also be addressed by the local plan. There have been many incidences of mine subsidence throughout the County and although there has never been a dam failure in the County, there are three dams with dam failure inundation areas in the County.

Figure 7 shows the hazards considered by this Plan, their estimated annual probability of occurrence, the communities that could be affected, and the number of square miles that are vulnerable.

Figure 7 Overall Summary of Sangamon County's Vulnerability to Natural Hazards

Hazard	Annual Probability	Impact Location	Square Miles Affected
Dam Failure	*	Riverton, Rochester, Springfield, Sangamon County	30
Drought	*	Countywide	877
Earthquake	*	Countywide	877
Extreme Heat	45%	Countywide	877
Flood	15%	Auburn, Chatham, Dawson, Divernon, Jerome, Pawnee, Pleasant Plains, Riverton, Rochester, Sherman, Springfield, Thayer, Sangamon County	87
Mine Subsidence	*	Auburn, Cantrall, Chatham, Dawson, Divernon, Jerome, Pawnee, Pleasant Plains, Riverton, Sherman, Southern View, Springfield, Thayer, Sangamon County	94
Severe Storm- Thunderstorm	83%	Countywide	877
Severe Storm- Hail	55%	Countywide	877
Tornado	44%	Countywide	877
Winter Storm	75%	Countywide	877

* Not enough data is available to calculate annual probability. Annual probability is based on recorded occurrences over the past 50 years (when data is available) in Sangamon County. There is no record of a dam failure or earthquake. Although droughts have occurred no reliable records were found. A severe drought did occur in the 1950s. Mine subsidence has occurred and many of those locations have been documented but the timeframe of occurrence is not recorded.

The value of structures in each community is shown in Figure 8. The Risk Assessment Committee determined that obtaining the value of each structure would be a monumental task that could not realistically be accomplished. Therefore, the Committee decided that the value of critical facilities would be estimated using the replacement cost based on square footage. The

value of all other structures would be the market value calculated from the assessed value as shown on County property tax records.

Figure 8 Total Structures Per Community

Community	Critical Facilities		Other Structures	Total Value of all Structures
	# of Structures	Estimated Value of Critical Facilities	Estimated Value of Other Structures	
Auburn	19	\$38,725,812	\$139,325,391	\$178,051,203
Buffalo	5	8,259,069	12,673,050	20,932,119
Cantrall	4	3,994,917	3,160,104	7,155,021
Chatham	11	57,393,643	465,975,687	523,369,330
Curran	7	3,818,778	6,312,564	10,131,342
Dawson	2	675,323	13,712,331	14,387,654
Divernon	10	11,022,902	35,128,056	46,150,958
Illiopolis	10	8,320,988	22,402,179	30,723,167
Jerome	4	805,903	59,679,207	60,485,110
New Berlin	11	12,003,712	41,981,328	53,985,040
Pawnee	11	22,637,611	89,702,064	112,339,675
Pleasant Plains	12	11,347,186	27,564,153	38,911,339
Riverton	11	10,168,754	97,735,710	107,904,464
Rochester	8	24,371,520	174,767,964	199,139,484
Sherman	7	9,674,724	206,242,494	215,917,218
Southern View	6	1,313,733	56,888,928	58,202,661
Springfield	177	3,025,016,900	5,479,316,679	8,504,333,579
Thayer	2	1,108,614	16,666,587	17,775,201
Williamsville	12	19,282,600	65,297,127	84,579,727
Sangamon Co.	44	383,306,632	1,480,816,818	1,864,123,450
TOTAL	3,055	3,653,249,321	8,495,348,421	12,148,597,742

Note: Critical facilities included are:

Government Facilities: city hall, fire station, government office/facility, library, military facility, police station, school.

Infrastructure: airport, bus station, communication tower, media location, power plant, railroad, sewer plant, train station, utility substation, water plant, water tower.

Medical Facilities: hospital, medical clinic.

Gathering Places: fairgrounds, park, tourist attraction.

Residential Facilities: nursing home, residential group home.

Other: facility storing chemical hazard, grain elevator, social service agency providing disaster shelter/relief.

Following is a detailed profile of each type of hazard including the location, extent, previous occurrences, and probability of future events; and a vulnerability assessment for each hazard.

DAM FAILURE HAZARD

DAM FAILURE – Description

What is dam failure?

(from: Federal Emergency Management Agency)

A “dam” is an artificial barrier that has the ability to impound water, wastewater, or any liquid-borne material for the purpose of storage or control of water. Dams can fail for one or a combination of the following reasons:

- Overtopping caused by floods that exceed the capacity of the dam.
- Deliberate acts of sabotage.
- Structural failure of materials used in dam construction.
- Movement and/or failure of the foundation supporting the dam.
- Settlement and cracking of concrete or embankment dams.
- Piping and internal erosion of soil in embankment dams.
- Inadequate maintenance and upkeep.

How are dam failures categorized?

(from: the Illinois Natural Hazard Mitigation Plan)

There are two categories of dam failures.

Rainy day failure involves periods of excessive precipitation leading to an unusually high runoff. This high runoff increases the reservoir of the dam and if not controlled, the overtopping of the dam or excessive water pressure can lead to dam failure. Normal storm events can also lead to rainy day failures if water outlets are plugged with debris or otherwise made inoperable.

Sunny day failures occur due to poor dam maintenance, damage/obstruction of outlet systems, or vandalism. This is the worst type of failure and can be catastrophic because the breach is unexpected and there may be insufficient time to properly warn downstream residents.

DAM FAILURE – Profile

What dams could pose a risk in Sangamon County?

There are three large dams that could impact Sangamon County if they failed. These are the two dams on Lake Springfield, Spaulding Dam and Saddle Dam, that are owned by City Water, Light and Power, and the Lake Sangchris Dam that is owned by Kincaid Generation LLC. The Lake Sangchris Dam is located just over the county line in Christian County but the impact of its failure would be almost entirely within Sangamon County. The location of these dams is shown in Figure 9.

The locations affected by dam failure.

The locations that could be affected by complete failure of each of the dams are shown in Figures 10, 11, and 12. FLDWAV, dam failure software from the National Weather Service, was used to model the dam failure scenarios for Lake Sangchris Dam and Spaulding Dam. The

Saddle Dam inundation area was determined using a less sophisticated method but does provide some idea of the potential consequence of failure. The scenarios depict an immediate failure of the entire length of each dam which would be a worst case situation.

Figure 9 Location of Dams Affecting Sangamon County

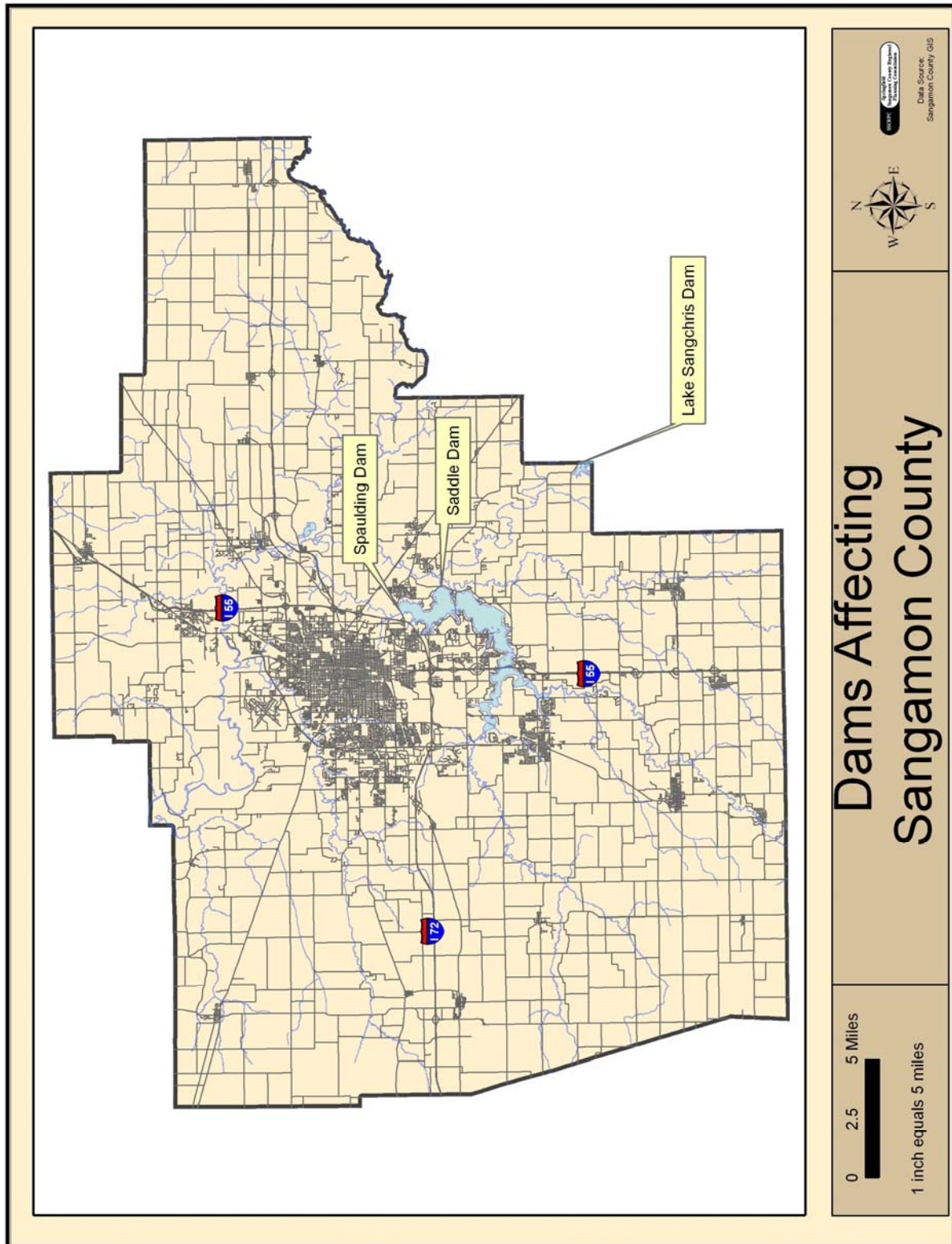


Figure 10 Lake Sangchris Dam Flood Inundation Area

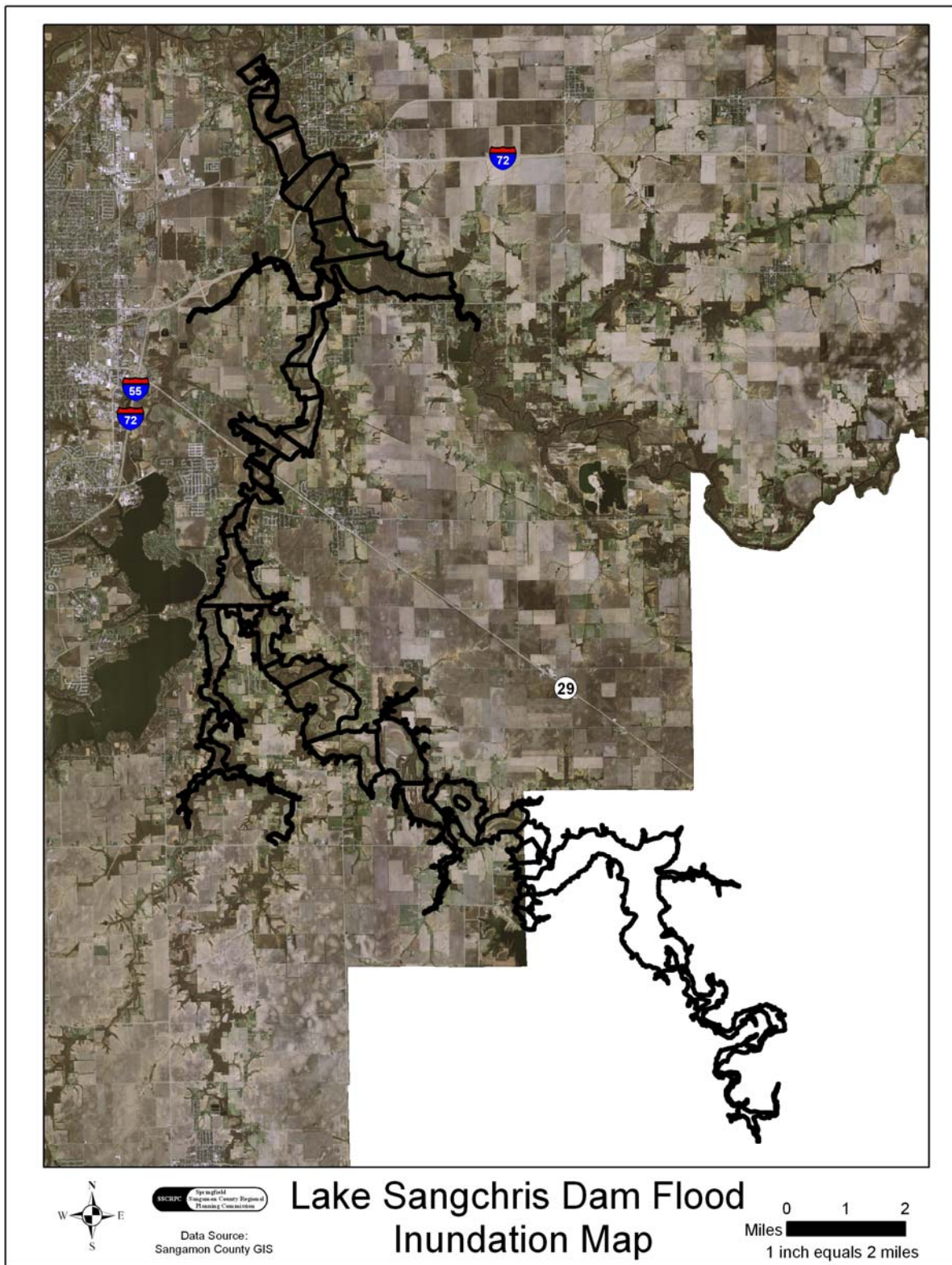


Figure 11 Spaulding Dam Flood Inundation Area

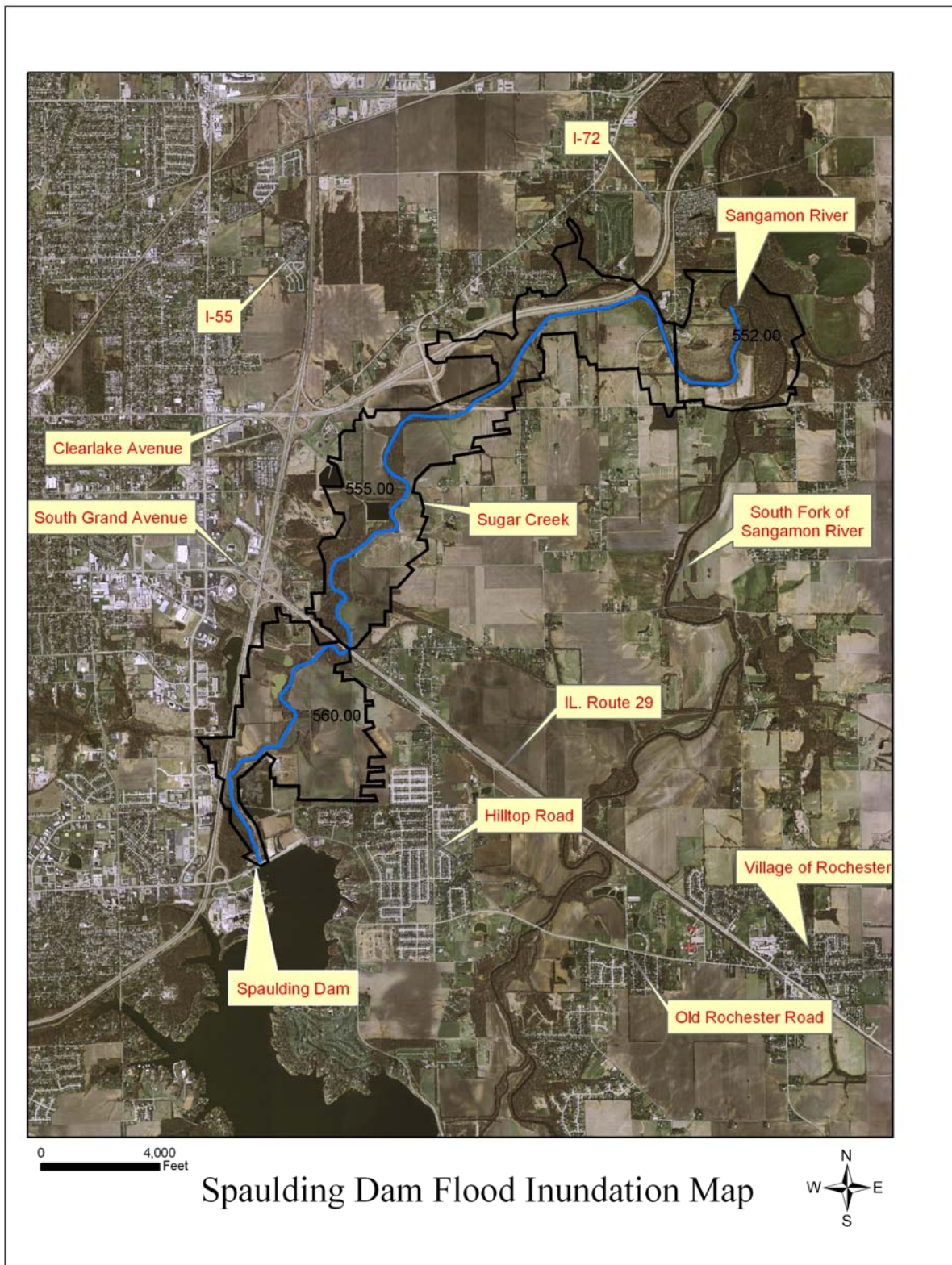
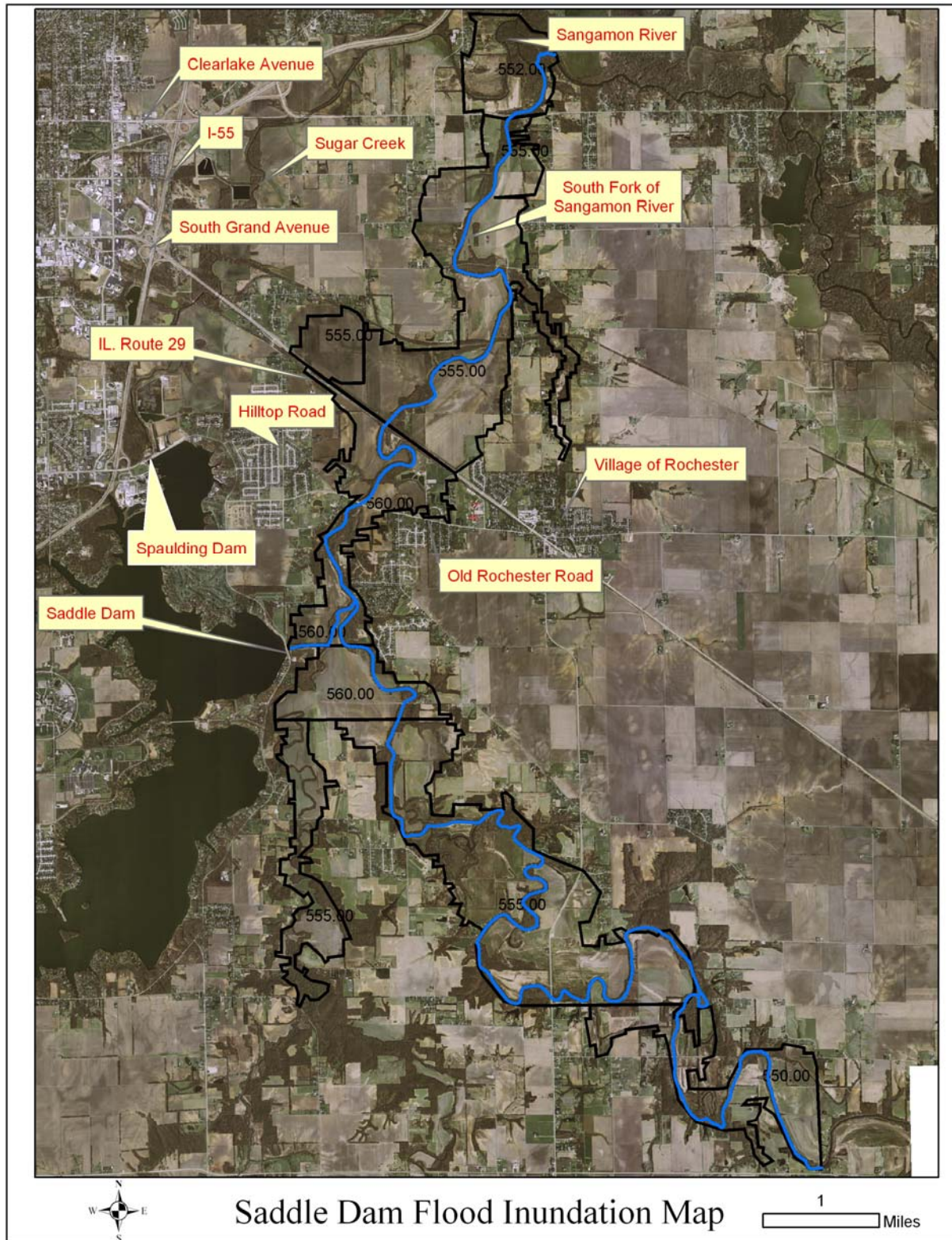


Figure 12 Saddle Dam Flood Inundation Area



The extent of previous dam failures in Sangamon County.

To date none of these dams have failed.

Probability of future dam failure events.

Since there has never been a dam failure in the County, the probability of a dam failure affecting Sangamon County cannot be specifically established, but is estimated to be relatively low.

DAM FAILURE –Assessing Vulnerability

The dam failure flood inundation scenarios generated the following consequences that could occur if complete failure happened all at once. However complete failure is highly unlikely. Each of the dams is earth filled so it is more likely that failure would occur over time as scouring removes the soil comprising the structure.

Figure 13 Worst Case Scenario Dam Failure

Dam	Buildings Affected*
Lake Sangchris Dam	65
Spaulding Dam	301
Saddle Dam	undetermined at this time

* The numbers of buildings indicated are derived from the planimetric layer of the County GIS map. The types of buildings affected are not specifically identified at this time.

Sufficient information needed to determine potential dollar losses if dam failure were to occur are not available at this time. The City of Springfield does plan to prepare an Emergency Action Plan addressing a breach of the Lake Springfield dams. The Emergency Action Plan would look at the specific buildings affected.

DROUGHT HAZARD

DROUGHT – Description

What is drought?

(from: Illinois State Climatologist Office)

“Drought is a complex physical and social phenomenon of widespread significance, and despite all the problems droughts have caused, drought has been difficult to define. There is no universally accepted definition because: 1) drought, unlike flood, is not a distinct event, and 2) drought is often the result of many complex factors acting on and interacting within the environment. Complicating the problem of drought is the fact that drought often has neither a distinct start nor end. It is usually recognizable only after a period of time and, because a drought may be interrupted by short spells of one or more wet months, its termination is difficult to recognize.”

Drought is also a temporary feature of the climate of Illinois, and we know it occurs only when less than adequate precipitation exists for an extended period of time. Because of the complex nature of droughts, there are many definitions, often reflecting a specific area of concern of an individual, a city, or a region.

The most commonly used drought definitions are:

1. Meteorological or Climatological Drought – a period of well-below-average precipitation that spans from a few months to a few years.
2. Agricultural Drought – a period when soil moisture is inadequate to meet the demands for crops to initiate and sustain plant growth.
3. Hydrological Drought – a period of below-average streamflow and/or depleted reservoir storage.

How are droughts measured?

The Illinois State Climatologist Office website shows a method for estimating drought conditions on a state-wide basis.

Figure 14 Severity of Precipitation Drought Expressed as Percent of the State-wide Average Precipitation		
Drought Duration	Moderate Drought	Severe Drought
3 months	45 to 60%	less than 45%
6 months	56 to 70%	less than 56%
12 months	70 to 80%	less than 70%
24 months	78 to 90%	less than 78%

The normal precipitation by month for Sangamon County is shown in Figure 15.

Figure 15 Normal Precipitation in Springfield from 1971-2000

Month	Normal Precipitation in inches
January	1.62
February	1.80
March	3.15
April	3.36
May	4.06
June	3.77
July	3.53
August	3.41
September	2.83
October	2.62
November	2.87
December	2.54
TOTAL	35.56

DROUGHT – Profile

The locations affected by drought.

The entire County could be affected by a drought since the precipitation patterns throughout the region are similar. A large portion of the County is in crop production so a drought would have an impact on the agricultural community.

Many homes outside of municipalities use private wells to provide water although there are also several water districts that supply public water to some rural areas. Municipalities in the County provide water to their residents from surface water or ground water sources. Severe drought affects all these water sources.

The extent of previous occurrences in Sangamon County.

According to Jim Angel, State Climatologist at the Illinois State Water Survey, the 1930s and 1950s were the periods when drought was most frequent and troublesome. Sangamon County experienced a severe drought in 1953-1955. In September 1983 all counties in the state were declared State disaster areas because of high temperatures and low precipitation conditions that began in June.

Probability of future drought events.

(from: Illinois State Climatologist Office)

The persistence of drought from one season to the next in Illinois is not as high as in other parts of the U.S., especially the West where multi-year droughts are common. Therefore the ability to predict the onset or continuation of a drought is more problematic. Recent advances in our understanding of large-scale atmospheric and oceanic circulation features, such as El Niño and the Pacific Decadal Oscillation, may lead to some small degree of skill in predicting drought one

or two seasons ahead. On the longer scale of multi-decades, no skill has been shown in forecasting drought, even with the application of so-called drought/solar cycles. As global and regional climate models improve we may begin to realize the ability to predict changes in frequency, intensity, or location of drought.

DROUGHT –Assessing Vulnerability

A drought in Sangamon County would impact two major aspects of our communities – water supply and agricultural production. No damage to buildings generally results from drought conditions.

(from: Illinois State Climatologist Office)

The first part of the hydrological cycle to be impacted by drought is the soil moisture. The changes in soil moisture can be quite rapid during the growing season when demand for moisture is high due to plant growth. Dry periods in Illinois typically have a near-normal number of days with rain, but the rains are more spotty and less intense. As a result, stream flow usually drops as well due to a lack of heavy rainfall events. Any rain that does fall is first absorbed into the ground because of the depleted soil moisture, reducing runoff.

According to the 2002 Census of Agriculture there were 970 farms in Sangamon County accounting for 468,314 acres of land. Ninety-three percent of this land was in crop production. Crop sales were \$131,338,000. Livestock sales were \$14,572,000. A severe drought would have a financial impact on the large agricultural community in Sangamon County particularly if it occurred during the growing season.

Water supplies from private wells, ground water sources, and surface water sources would also be impacted by a severe drought.

EARTHQUAKE HAZARD

EARTHQUAKE – Description

What is an earthquake?

(from: 2007 Illinois Natural Hazard Mitigation Plan)

“Earthquakes occur when rocks forming the earth’s crust slip past each other along a fault. This slippage occurs when the buildup of stresses gets to the point that they are greater than the strength of the locked up section of rocks along the fault plane. When faulting takes place, the sudden release of energy produces vibrations or seismic (shock) waves that radiate from the main fault movements. These waves cause the shaking or “quaking” that lasts tens of seconds to a few minutes, depending on the magnitude of the event (energy released) and what kinds of rocks they travel through and the stiffness or lack of stiffness of the soils at a site. Where the faulting starts, at some depth below the Earth’s surface, is the hypocenter (focus) of an earthquake. The point on the surface directly above the focus is the epicenter.”

How are earthquakes measured?

There are two ways to measure earthquakes.

The magnitude is a calculation of the seismic energy released and is measured through ground vibrations with a seismograph. The familiar Richter Scale is one way of reporting magnitude. The increments of magnitude are logarithmic. An increase of 0.2 on the Richter Scale indicates a doubling of the amount of energy released. For example, a magnitude 7 earthquake releases about 32 times more energy than a magnitude 6 earthquake. A single magnitude number is calculated for each earthquake event.

The intensity relates to the effects of an earthquake and is based on descriptions provided by people experiencing the event rather than readings from an instrument. The intensity decreases when moving away from the epicenter. The type of soil influences intensity which will be stronger through the thick, loose, saturated soils found along river valleys. The Modified Mercalli Intensity Scale is used in the United States to report earthquake intensities. Many intensities are indicated for each earthquake event based on distance from the epicenter and soil type.

Figure 16 shows a comparison of the Richter Scale and Modified Mercalli Intensity Scale.

EARTHQUAKE – Profile

The locations affected by earthquakes.

To date there has been no earthquake damage recorded in Sangamon County. However, all of Sangamon County has some vulnerability to earthquake activity that occurs elsewhere. A relatively intense earthquake with an epicenter in Mason County would cause more costly damage in the north and west parts of the County. Another earthquake event along the New Madrid fault would more intensely affect the south/southeast parts of the County thus all of Sangamon County has some vulnerability to earthquake activity.

Figure 16 Comparison of Modified Mercalli Scale and Richter Scale (from: FEMA)

The Modified Mercalli Scale		Level Of Damage	The Richter Scale
1-4	Instrumental to Moderate	No damage.	<= 4.3
5	Rather Strong	Damage negligible. Small, unstable objects displaced or upset; some dishes and glassware broken.	4.4 - 4.8
6	Strong	Damage slight. Windows, dishes, glassware broken. Furniture moved or overturned. Weak plaster and masonry cracked.	4.9 - 5.4
7	Very Strong	Damage slight-moderate in well-built structures; considerable in poorly-built structures. Furniture and weak chimneys broken. Masonry damaged. Loose bricks, tiles, plaster, and stones will fall.	5.5 - 6.1
8	Destructive	Structure damage considerable, particularly to poorly built structures. Chimneys, monuments, towers, elevated tanks may fail. Frame houses moved. Trees damaged. Cracks in wet ground and steep slopes.	6.2 - 6.5
9	Ruinous	Structural damage severe; some will collapse. General damage to foundations. Serious damage to reservoirs. Underground pipes broken. Conspicuous cracks in ground; liquefaction.	6.6 - 6.9
10	Disastrous	Most masonry and frame structures/foundations destroyed. Some well-built wooden structures and bridges destroyed. Serious damage to dams, dikes, embankments. Sand and mud shifting on beaches and flat land.	7.0 - 7.3
11	Very Disastrous	Few or no masonry structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Rails bent. Widespread earth slumps and landslides.	7.4 - 8.1
12	Catastrophic	Damage nearly total. Large rock masses displaces. Lines of sight and level distorted.	> 8.1

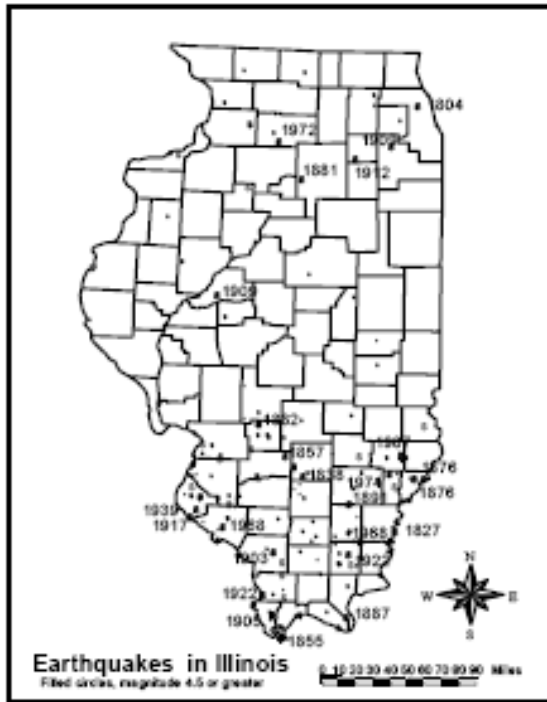
The extent of previous earthquakes in Sangamon County.

There is no earthquake history to speak of in Sangamon County although tremors have been felt in the past from earthquakes with epicenters elsewhere. Figure 17 shows earthquakes in Illinois over the past 200 years. (The figure does not include the most recent 5.2 earthquake that occurred on April 18, 2008. This one was centered about 160 miles southeast of Springfield and shaking was felt in Sangamon County but no damage resulted.) The nearest earthquake of significant magnitude occurred on July 19, 1909 in Mason County between Petersburg and Havana. The estimated magnitude was 4.8 and no damage was recorded in Sangamon County.

On November 9, 1968 a magnitude 5.5 earthquake (the largest in the Central United States during the 20th century) occurred with an epicenter northeast of Harrisburg in Southern Illinois. The intensity felt in Sangamon County was 5 on the Modified Mercalli Intensity Scale, which indicates trembling was felt but no damage resulted.

Evidence suggests that large magnitude earthquakes centered in the New Madrid area occurred in the years 300, 900, 1450, and 1811-1812. The shortest interval between events was 360 years (most recently). During the winter of 1811-1812 what is commonly known as the New Madrid earthquake occurred, but this actually consisted of four earthquakes of magnitude 7+ and hundreds of smaller earthquakes over a several month period. At that time the area that is now Sangamon County was sparsely populated and there is no record of the intensity experienced here from these events.

Figure 17 Earthquakes In Illinois Over The Past 200 Years
(from: 2007 Illinois Natural Hazard Mitigation Plan)



Probability of future earthquake events.

It is difficult to calculate the probability of future earthquake events in Sangamon County since there has not been one of any significance since records have been maintained. The New Madrid seismic zone is the most studied area for earthquake activity. The US Geological Survey estimates the probability of a repeat of the 1811-1812 magnitude earthquakes is 7-10% over a 50-year time period. The Illinois State Geological Survey estimates the likelihood of a damaging earthquake (magnitude 6.3 or greater) occurring somewhere in the Central United States is 86-97% over a 50-year period.

EARTHQUAKE –Assessing Vulnerability

Using HAZUS software provided by FEMA an analysis of the damages that could be caused in Sangamon County today by a recurrence of the earthquake originating in Mason County in 1909 was prepared. Although that earthquake had a magnitude of 4.8 a magnitude of 5.0 was used in the model as this appears to be the minimum value for getting accurate data from the software. Direct economic loss predicted is shown in Figure 18 and totals \$5,632,010. Figure 19 shows the areas of impact.

Figure 18 Total Economic Loss Estimates in Sangamon County for a Magnitude 5.0 Earthquake Centered in Mason County

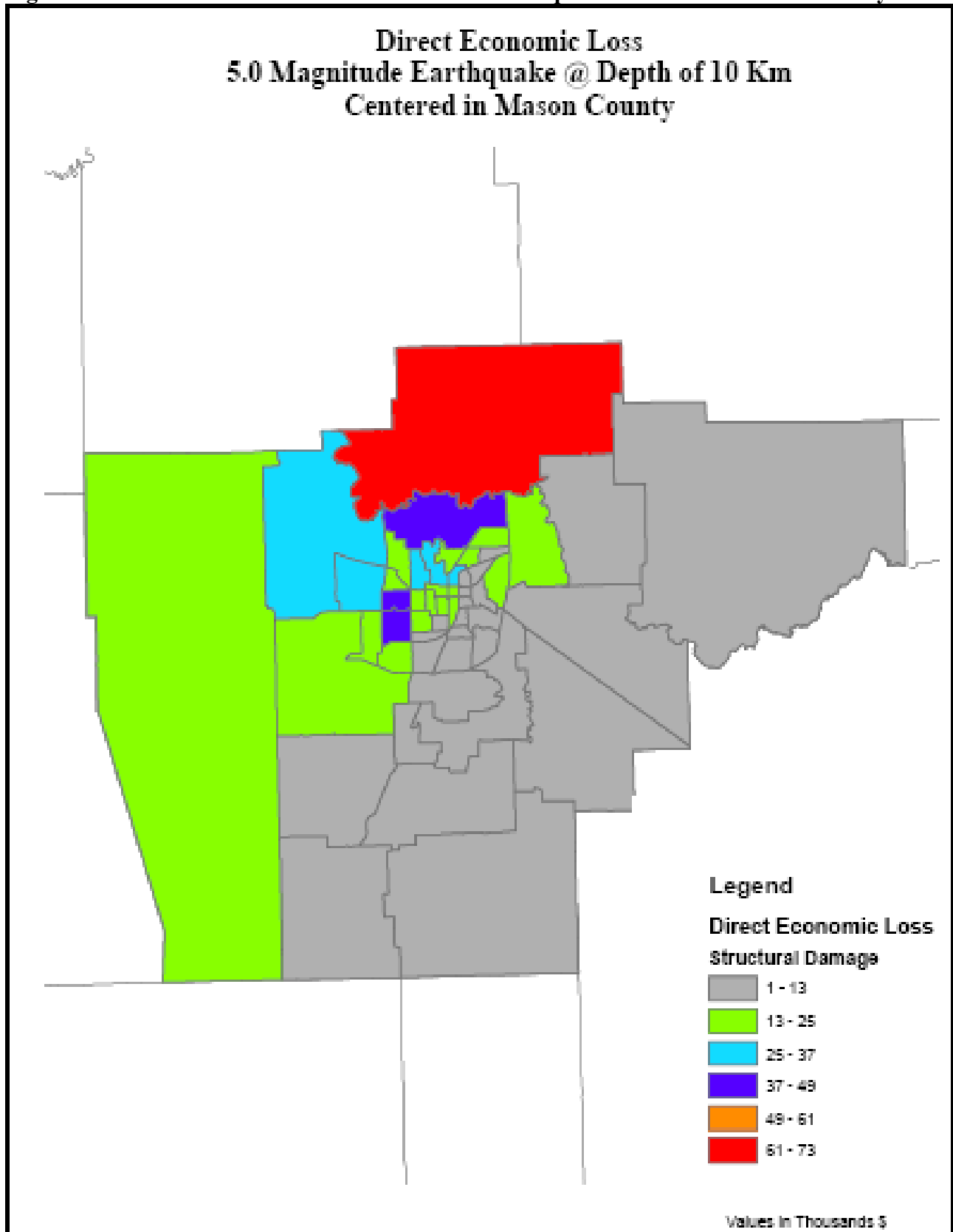
Building Damage	Contents Damage	Inventory Loss	Relocation	Income Loss	Rental Income Loss	Wage Loss	Total Loss
\$3,496,160	\$1,345,180	\$2,431	\$1,754	\$197,730	\$262,150	\$288,940	\$5,632,010

Other notes of interest under this scenario:

- It appears most likely there would be no damage to critical facilities in Sangamon County.
- Perhaps 40 households would be displaced, five of them requiring short-term shelter.
- The north-central part of the County could be susceptible to fire.
- There could be slight damage at Abraham Lincoln Capital Airport although none to runways.
- Slight damage could be experienced by the Springfield Mass Transit District but the operation would continue to function.
- No damage is expected to roads or bridges.
- Minimal impact on other infrastructure is anticipated (utilities, communication, water, sewer).

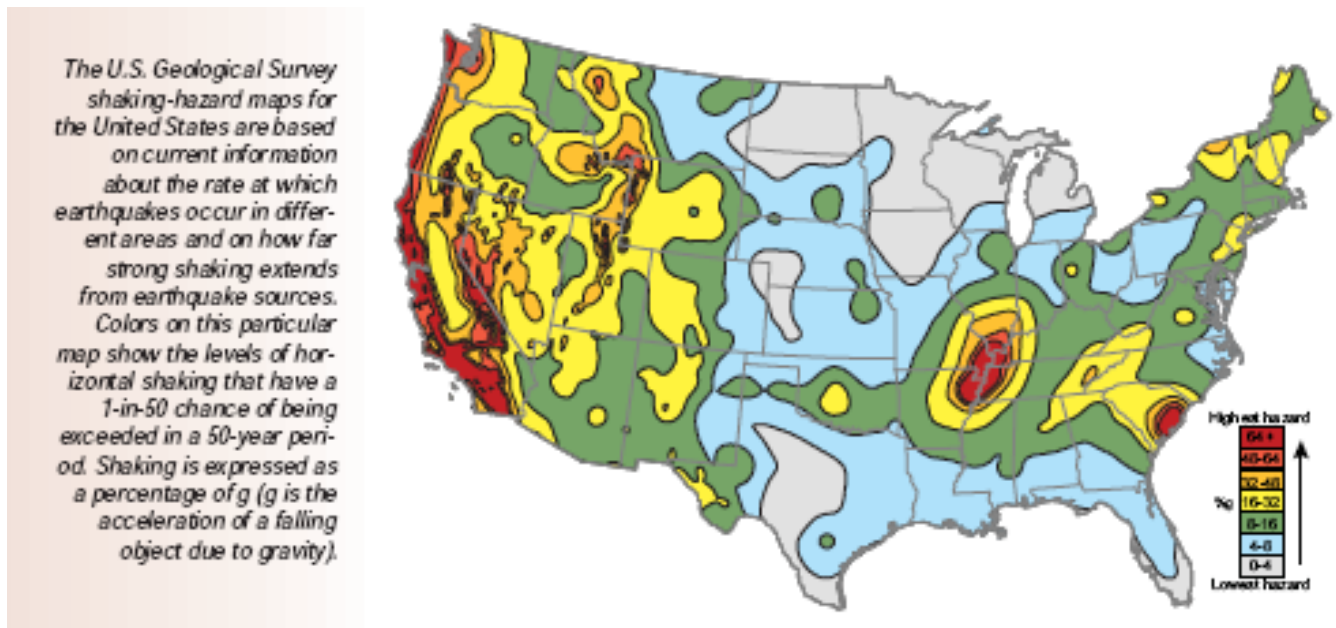
It appears that a repeat of the Mason County earthquake would have only minimum impact in Sangamon County. The reason for the Mason County earthquake, however, is unclear as no fault line is in the area. This does present the thought that a similar earthquake could happen in Sangamon County although the likelihood of this cannot be predicted.

Figure 19 Direct Economic Loss From a 5.0 Earthquake Centered in Mason County



Another major earthquake centered in the New Madrid area could have an impact on Sangamon County. However, limitations in the HAZUS software prevent its use in estimating damages and no other mechanism is available to do so. Figure 20 is a shaking-hazard map that shows the levels of horizontal shaking that have a 1 in 50 chance of being exceeded in a 50-year period. Shaking is expressed as a % of g with g being the acceleration of a falling object due to gravity. Sangamon County is at the lower end of the scale with 8-16 %g (green on the map) while 64 is the %g felt at the location of an epicenter.

Figure 20 Shaking Hazard Map
(from: the US Geological Survey)



EXTREME HEAT HAZARD

EXTREME HEAT –Description

What is extreme heat?

Extreme heat is a combination of high temperatures and high humidity. Conditions of extreme heat are dangerous and can cause injury and death.

The Heat Index is apparent temperature or a measure of how it feels when temperature and humidity are combined. It is the result of biometeorological studies and takes into account body size, core and body surface temperatures, clothing, the skin's resistance to heat and moisture transfer away from the body. The Heat Index assumes an average-sized adult with clothing in the shade with a 5-mph wind. Being in the full sun or in an area with little air movement can increase the apparent temperature.

What makes extreme heat dangerous?

(from the Illinois Climatologist Office-Illinois State Water Survey)

The body cools itself by sweating because the evaporation of moisture has a cooling effect. High humidity reduces this evaporation and hinders the body's effort to cool itself. The dew point temperature is a much more useful measure of the moisture content of the atmosphere than the commonly used relative humidity. During summer in Illinois, dew point temperatures in the 50s are generally comfortable. Most people begin to feel the humidity when dew point temperatures are in the 60s. Dew point temperatures in the 70s are rare and cause significant discomfort.

Effects of extreme heat.

Heat cramps: muscular pains and spasms due to heavy exertion. They usually involve the abdominal muscles or legs. It is generally thought that the loss of water from heavy sweating causes the cramps.

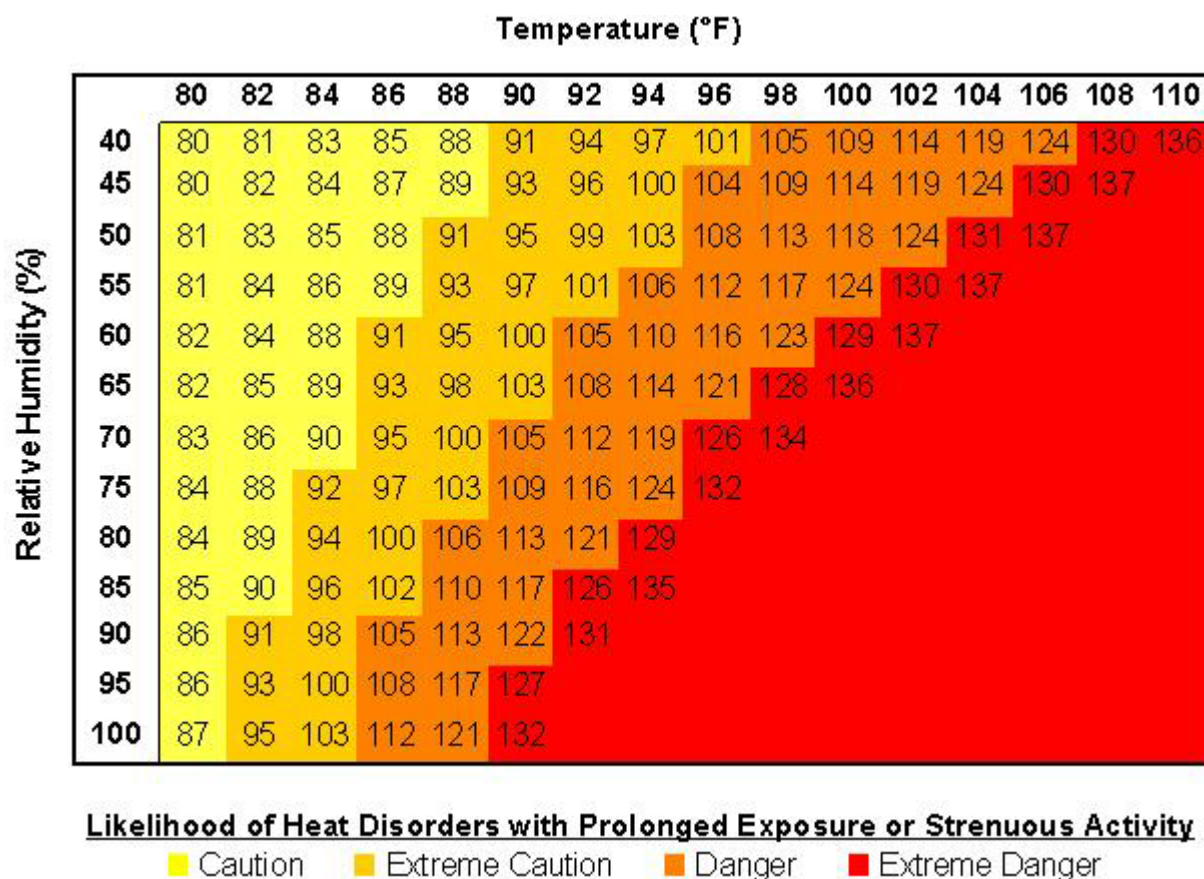
Heat exhaustion: occurs when people exercise heavily or work in a warm, humid place where body fluids are lost through heavy sweating. Blood flow to the skin increases, causing blood flow to decrease to vital organs. This results in mild shock.

Heatstroke/Sunstroke: LIFE THREATENING. The victim's temperature control system stops working as the body quits producing sweat. The body temperature can rise so high that brain damage and death may result if the body is not cooled quickly.

**Figure 21 The Relationship of Heat Disorders to Heat Index
(from National Weather Service)**

Heat Index	Heat Disorder
130° +	heatstroke highly likely with continued exposure
105° - 130°	heat cramps or heat exhaustion likely. Heatstroke possible with prolonged exposure or physical activity
90° - 105°	heatstroke, heat cramps and heat exhaustion possible with prolonged exposure and/or physical activity
80° - 90°	fatigue possible with prolonged exposure and/or physical activity

**Figure 22 Heat Index Derived from Humidity and Temperature
(from the National Weather Service)**



Extreme heat warnings.

The National Weather Service issues alerts related to extreme heat conditions in the Sangamon County area as shown in Figure 23.

Figure 23 National Weather Service Alerts (data from Illinois State Climatologist Office)

Type of Alert	Conditions
Heat Warning	when a maximum heat index of 115 or greater and a minimum heat index of 80 or greater is imminent or likely to occur in the next 12 to 24 hours
Heat Advisory	when a heat index of 105 or greater with a minimum heat index of 80 or greater is imminent or likely to occur in the next 12 to 24 hours
Heat Watch	if the heat warning criteria are expected to be reached in 12 to 48 hours
Heat Outlook	when a heat wave is several days away

EXTREME HEAT – Profile

The locations affected by extreme heat.

Extreme heat conditions generally occur throughout central Illinois during any single event. People in all of our communities are vulnerable to the dangers present during these conditions.

The extent of previous extreme heat events in Sangamon County.

The data available on extreme heat events in Sangamon County only goes back to 1996. This information is shown in Figure 24.

**Figure 24 Extreme Heat Events in Sangamon County from January 1, 1996 – March 31, 2007
(from: National Climatic Data Center)**

Dates	Temperature Ranges	Heat Index Values	Impact Reported
July 26 – July 27, 1997	95° - 100°	105° - 115°	heat related injuries, roads buckling
June 26 – June 28, 1998	middle to upper 90s	105° - 110°	heat related injuries, roads buckling
July 20 – July 26, 1999	lower to middle 90s	105° - 110°	heat related death and injuries
July 28 – July 31, 1999	lower to middle 90s	105° - 110°	heat related injuries
July 22 – July 25, 2005	middle 90s to 100°	105° - 115°	heat related death and injuries
July 30 – August 2, 2006	94° - 100°	105° - 110°	heat related injuries

Previous occurrences of extreme heat.

As seen in Figure 24, extreme heat conditions in Sangamon County from January 1996 through December 2006 have occurred from late June to early August with July being the prime time. Six out of the seven events started in July. Extreme heat conditions have lasted from two days to seven days. In two cases deaths occurred due to the heat. In July 1999 a 62-year old woman was found in her Springfield home with all the windows closed and no fans or air conditioning. In July 2005 an elderly Springfield woman was found in her mobile home with malfunctioning air conditioning.

Probability of future extreme heat events.

As seen in Figure 24 on the previous page, in the 11 year period from January 1996 through December 2006, there were 5 years when at least one extreme heat event was recorded in Sangamon County. This indicates a 45% probability that an extreme heat event will occur in Sangamon County in any given year.

EXTREME HEAT –Assessing Vulnerability

Unlike other natural hazard events extreme heat does not damage buildings. The toll is on people and can lead to extreme medical conditions and death. Heat related injuries are a major concern with heatstroke being a severe medical condition that requires emergency medical treatment. The most vulnerable are the elderly, infants, young children, and people with chronic health problems. In central Illinois most deaths have occurred when people have been in a closed home with no air conditioning. There is a greater concern in urban areas because concrete and asphalt retain heat and release it at night, offsetting any relief that otherwise would have been felt. The loss of power can also exacerbate a serious situation.

FLOOD HAZARD

FLOOD – Description

What is a flood?

(from: Illinois Natural Hazard Mitigation Plan)

The standard definition of a flood is “A general and temporary condition of partial or complete inundation of normally dry land areas from (1) the overflow of inland or tidal waters, (2) the unusual and rapid accumulation or runoff of surface waters from any source, or (3) mudflows or the sudden collapse of shoreline land”. A simpler definition is too much water in the wrong place. Since water circulates from clouds to the soil to streams to rivers to the oceans and returns to the clouds, a scientific definition of a flood is an imbalance in the “hydrological system” with more water flowing through the system than the system can draw off.

What types of floods occur in Sangamon County?

The majority of flooding in Sangamon County is riverine flooding, related to the overbanking of rivers and streams. Some flooding also occurs along the shoreline of Lake Springfield. Flash flooding unrelated to bodies of water also can result from heavy rainfall over a short period of time in areas where the ground is already saturated with water or there are large expanses of impermeable surfaces, such as urbanized areas developed with buildings, concrete sidewalks, and asphalt parking lots and roadways.

How are flood alerts issued?

Urban and small stream advisory or a flash flood watch: issued when heavy rains that could inundate streams or roadways are predicted. Flash floods can be very dangerous, occurring when water accumulates so rapidly that it cannot be absorbed by the ground or accommodated by storm sewers. Flood waters can move rapidly carrying away anything in its path and can create deep areas of standing water. During a flash flood watch residents should stay aware of the weather and take necessary precautions if conditions worsen.

Flash flood warning: issued when a flash flood is occurring. In addition to the information provided during a flash flood watch, areas of greatest hazard are identified. During periods of a warning, areas subject to flooding should be evacuated and avoided.

Flood warning: issued for the Sangamon River and South Fork of the Sangamon River when heavy rains occurring in areas to the east of Sangamon County will cause local flooding. These usually provide a couple of days lead time before flooding reaches our area and local weather forecasts will include this information along with predicted flood heights.

Watches and warnings are sent to radio and television stations by the National Weather Service in Lincoln, Illinois:

Local Radio Stations

WFMB 1450 AM

WTAX 1240 AM

WMAY 970 AM

NOAA Weather Radio – WXJ75 162.400 kHz

Local Television Stations

WAND Channel 17

WCIA Channel 3

WICS Channel 20

Cable Weather Channel 44

Are there benefits of floodplains?

When left undisturbed, a floodplain provides storage area for flood waters helping to reduce the height and flow of flooding. Floodplains also provide habitat for a diverse array of plants and animals, control erosion, filter runoff, and recharge groundwater. Particularly important is the fact that when there are no buildings in a floodplain, damage to human life and property by flooding is greatly diminished.

FLOOD – Profile

The locations affected by flooding.

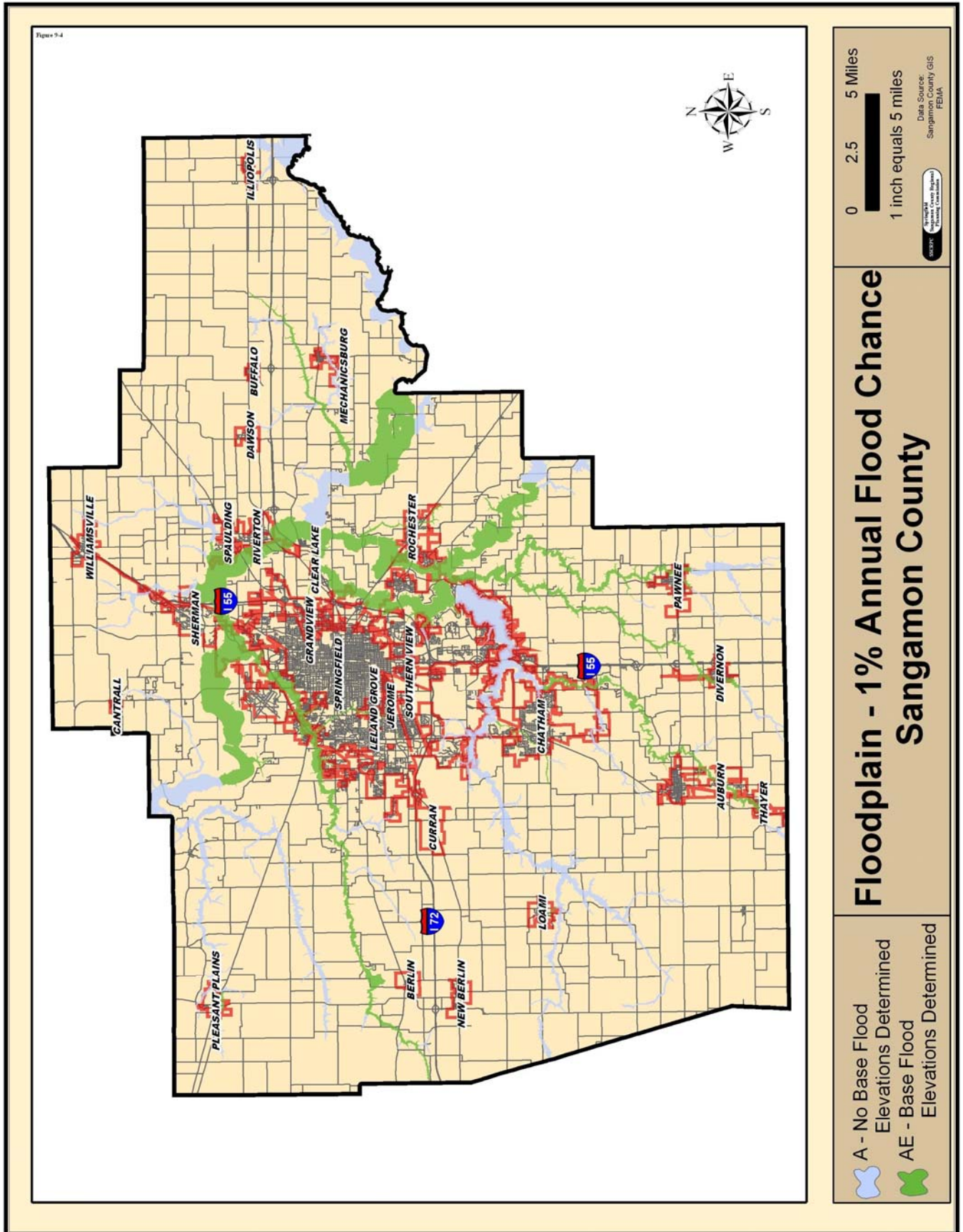
Approximately 10% of the area in Sangamon County is designated as a 100-year floodplain by the Federal Emergency Management Agency on the August 2, 2007 Countywide Flood Insurance Rate Map. A large portion of the flood-prone area is in the unincorporated parts of the County although several communities also are vulnerable to flooding. The following chart indicates which bodies of water are identified by FEMA with special flood hazard areas in each community.

Figure 25 Water Bodies Subject to Flooding in Each Community

Community	Water Bodies Subject to Flooding
Auburn	Sugar Creek
Buffalo	None
Cantrall	None
Chatham	Fox Creek, Polecat Creek, Panther Creek, Lake Springfield
Curran	None
Dawson	None
Divernon	Brush Creek
Illiopolis	None
Jerome	Jacksonville Branch
New Berlin	None
Pawnee	Horse Creek, Henkle Branch
Pleasant Plains	Richland Creek, Branch of Richland Creek
Riverton	Sangamon River
Rochester	Black Branch, South Fork Sangamon River
Sherman	Sangamon River, Fancy Creek
Southern View	None
Springfield	Lake Springfield, Lick Creek, Polecat Creek, Sugar Creek, Spring Creek, Sangamon River, Jacksonville Branch
Thayer	Sugar Creek
Williamsville	Wolf Creek
unincorporated Sangamon County	Black Branch, Brush Creek, Buckhart Creek, Cantrall Creek, Clear Creek, Fancy Creek, Horse Creek, Lick Creek, Panther Creek, Polecat Creek, Prairie Creek, Richland Creek, Spring Creek, Sugar Creek, Wolf Creek (and their tributaries), Sangamon River, South Fork of the Sangamon River, Lake Springfield

Figure 26 is a map of the floodprone areas of the County. The Flood Insurance Rate Map provides base flood elevations when a study has been performed for a particular body of water

Figure 26 Floodplain – 1% Annual Flood Chance in Sangamon County



and these flood zones are designated AE. Flood zone A designates an area where a base flood elevation has not been established.

The extent of previous floods in Sangamon County.

The Federal Emergency Management Agency has determined the flood that has a 1% chance of occurring in any given year for areas of Sangamon County. These are designated as special flood hazard areas on the Flood Insurance Rate Maps and are commonly known as 100-year floodplains. This term, however, does mislead people to believe that a flood of that magnitude would only occur once in any 100-year period. To the contrary, Figure 27 shows the dates and heights of three “100-year” floods that have been recorded on the Sangamon River at the Old Route 36 Bridge in Riverton over the 92-year period from 1911-2002. Four additional floods rose to less than a foot below the 100-year flood level.

**Figure 27 Historically High Flood Events on the Sangamon River at Riverton
(100-year flood elevation = 537’)**

Date	Elevation
5/19/1943	539.90
9/11/1926	538.53
5/14/2002	538.08
4/13/1994	536.66
4/11/1922	536.60
2/2/1916	536.41
6/6/1917	536.18
9/30/1911	535.60
6/9/2008	535.27
8/24/1915	535.23
4/12/1979	535.16

High floods on the South Fork of the Sangamon River as recorded 100’ downstream of Horse Creek near Rochester are shown in Figure 28.

**Figure 28 Historically High Flood Events on the South Fork of the Sangamon River at
Rochester (100-year flood elevation = 545.5’)**

Date	Elevation
5/14/2002	544.87
4/14/1979	543.22
2/26/1985	542.09
11/22/1986	540.44
4/25/1973	540.14
6/18/1970	541.31

Previous flood occurrences.

In May 2002, major flooding occurred in the County after excessive rainfall on already saturated ground. The South Fork of the Sangamon River reached the highest level in a 50 year period. The Sangamon River exceeded the 100-year flood elevation, although it did not reach the 1943 height of five feet above the 100-year flood elevation. Many homes in Riverton, Divernon, Pawnee, and unincorporated areas of the County received substantial damage when they were inundated with flood water for up to five days. Some buildings that were not located in a floodplain were also damaged due to the accumulation of water in areas where the ground was saturated. Major and minor roads were made impassable for varying amounts of time when I-55 flooded north of Divernon at Brush Creek, Mechanicsburg Road flooded east of the I-72 interchange at Sugar Creek, Peoria Road flooded south of Sherman at the Sangamon River, and several country roads flooded in low-lying areas. The widespread destruction resulted in Presidential Disaster Declaration 1416. (Other Presidential Disaster Declarations due to flooding were issued in 1982, 1994, and 1996.) After the 2002 flood 36 properties that had received substantial damage were acquired with hazard mitigation grants in Divernon, Pawnee, Riverton, and unincorporated Sangamon County.

In June 2008 major flooding again occurred with the Sangamon River cresting at 535.27 feet at Riverton and the South Fork of the Sangamon River cresting at 539.95 feet at Rochester on June 9. Only a few structures incurred damage because over 100 buildings have been removed from the floodplain throughout Sangamon County over the past two decades through acquisition projects and public health code enforcement and new buildings have not been constructed in special flood hazard areas due to enforcement of flood ordinances.

Probability of future flooding events.

FEMA calculates the elevation of a flood that has a 1% chance in any given year of occurring. Land that is located in a designated floodplain will flood at some point. Unlike other natural hazards the properties that are affected by riverine and lake flooding are mapped so the risk is more easily pinned down. Figure 26 shows the areas of the County that are at risk of flooding. Some water bodies have a base flood elevation, or projected height of a 1% chance flood (100-year flood), determined. These are differentiated on this map from those areas of floodplain where the base flood elevation is not determined. The graphic depiction only shows the 1% percent chance flood. Flooding can reach elevations higher than shown and flash flooding due to heavy rainfall can create water accumulation in areas not designated as floodplains. Based on the four Presidential Disaster Declarations over the 26-year period from 1981 – 2007 the probability of a major flood occurring in Sangamon County in any given year is 15%.

FLOOD – Assessing Vulnerability

The following communities in Sangamon County have some floodplain according to the countywide Flood Insurance Rate Map effective August 2, 2007 provided by the Federal Emergency Management Agency. These communities participate in the National Flood Insurance Program.

Auburn, Chatham, Divernon, Jerome, Pawnee, Pleasant Plains, Riverton, Rochester, Sherman, Springfield, Thayer, Williamsville, and unincorporated Sangamon County.

Using the digitized Flood Insurance Rate Map with the County GIS map, all properties having a building shown in the floodplain were determined and the market values of the buildings were calculated using the property tax assessment records. Because the flood map is a graphic representation of the 1% chance flood and is not based on actual ground elevations, the data gathered is simply an estimate. The only way to know the exact number of buildings actually in the floodplain would be to determine the elevation of each of the buildings indicated below. Some property owners have done this and received a Letter of Map Amendment (LOMA) from FEMA. A LOMA provides documentation that a particular building or parcel of land is above the base flood elevation and therefore is not subject to the 100-year flood. These buildings have been omitted from data in Figure 29.

The vulnerability of each structure cannot be established without building elevations. Even factoring in damage to contents, the actual dollar loss during a single flood event would most likely be less than shown in Figure 29. If funding becomes available the Sangamon County GIS Department would like to implement a project to determine the elevation of all buildings in the floodplain.

Figure 29 Estimate of Buildings in a 100-Year Floodplain

Community	Buildings in Floodplain	Total Value of Buildings Exposed to Damage
Auburn	8	\$1,142,883
Chatham	43	\$4,409,976
Divernon	53	\$2,557,380
Jerome	15	\$1,193,775
Pawnee	41	\$1,863,918
Pleasant Plains	18	\$1,354,875
Riverton	18	\$1,376,514
Rochester	31	\$3,278,490
Springfield	247	\$51,039,669
Thayer	19	\$977,601
Williamsville	0	0
Unincorporated Sangamon County	450	\$55,303,158
TOTAL	943	\$124,498,239

Floods and development trends.

Each community in Sangamon County that is subject to flooding participates in the National Flood Insurance Program and has adopted a floodplain ordinance. Enforcing this ordinance provides protection to any new structures built in a floodprone area. The Sangamon County Subdivision Ordinance also requires any floodprone area in a new subdivision to be set aside as open space.

MINE SUBSIDENCE HAZARD

MINE SUBSIDENCE – Description

What is mine subsidence?

(from: “Approaches to Mine Subsidence in Four U.S. Communities”)

“Mine subsidence is the collapse of the ground surface over areas where coal or mineral ores were removed. Subsidence causes ground surface deformation resulting in a range of problems from deep holes with vertical sides that pose physical threats to people, to more subtle forms of subsidence characterized by sagging of the ground surface producing more damage, over larger areas, affecting nearly all man made structures.

Subsidence is an onerous problem. The underground mine lays dormant and forgotten until, one day, failure within the mine has progressed upward far enough that it reaches the ground surface. Subsidence damages, therefore, tend to be sudden and unexpected. History has demonstrated that nearly any undermined area regardless of depth, where significant volumes of coal or mineral ore were extracted, is susceptible to subsidence.”

There are two types of subsidence. Pit subsidence creates a hole 6 to 8 feet deep and 2 to 40 feet across (although most are less than 16 feet in diameter). Sag subsidence creates a depression over a broad area up to several hundred feet long and a few hundred feet wide.

What are the consequences of mine subsidence?

(from: Mine Subsidence: A Guidebook for Local Officials)

Following are the consequences to buildings caused by mine subsidence.

- A homeowner hears popping, creaking, and cracking sounds.
- Cracks start to appear in the foundation and exterior walls.
- Sections of a building begin to tilt. The doors swing open and shut.
- Windows begin to stick, jam, and even break.
- A hairline crack appears in the basement or garage floor and begins to widen.
- Separations between walls and floors develop.
- The foundation starts pulling away from the frame of the house.
- Long continuous cracks in the ground are seen.

Subsidence can also buckle roadways and break waterlines, gas lines, telephone lines, and sewer lines. Damage can occur adjacent to undermined lands as well.

Mining in Sangamon County.

The first coal mine in Springfield began operation in 1867 and the last one was abandoned in 1964. A total of 53 coal mines have operated in Sangamon County. It appears that most, if not all, of these mines used the room-and-pillar technique which leaves pillars to support the mine roof after 30-80% of the coal has been extracted. Unfortunately the pillars do not provide permanent structural support and subsidence can occur when:

- pillars become weak and fail
- the floor beneath the pillars fail, causing the pillars to sink
- the mine roof collapses

MINE SUBSIDENCE – Profile

The locations affected by mine subsidence.

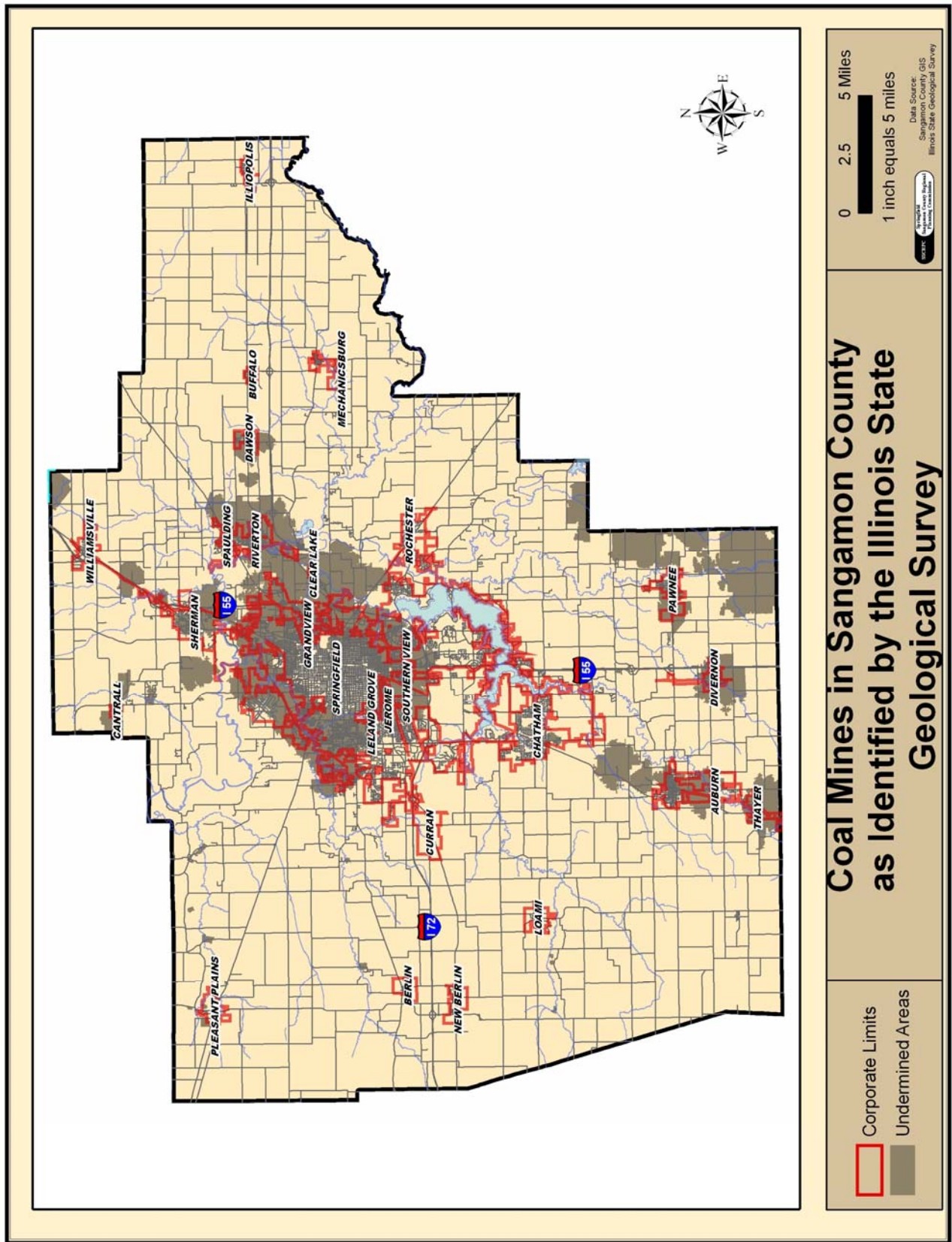
State law required all mine owners to record maps of coal mines however, this law was not strictly enforced because mine safety was a bigger concern for regulators. Consequently, the mines identified by the Illinois State Geological Survey may not be all inclusive or necessarily accurate.

As seen in Figure 30, the known coal mines in Sangamon County are concentrated in the central area from north to south. Mines were often located in proximity to cities, which offered labor and a market. At times towns were established near coal mines to provide housing for miners. Therefore, several participating communities are located near or directly over mines: Auburn, Cantrall, Chatham, Dawson, Divernon, Jerome, Pawnee, Pleasant Plains, Riverton, Sherman, Southern View, Springfield, Thayer, Williamsville, and unincorporated Sangamon County.

The extent of previous occurrences of mine subsidence in Sangamon County.

There is no database of previous occurrences of mine subsidence in Sangamon County. However, there have been many instances when damage has occurred, although exact costs related to specific structures are not available. Vertical settlement of a structure is usually 2-4 feet.

Figure 30 Coal Mines in Sangamon County



Previous occurrences of mine subsidence.

Figure 31 shows places in the vicinity of Springfield where mine subsidence occurred from 1867-1998 based on information available to the IDNR Office of Mines and Minerals. (It is believed that the number of subsidence events is underestimated on this map.) Approximately one-half of the data was collected from reports prepared prior to 1930. The remaining data is based on aerial imagery or direct observation and measurements.

Property taxes in Sangamon County are reduced on property that has been damaged by mine subsidence although no centralized records are maintained to identify these properties. Anecdotal information suggests that homes in Divernon and Riverton have been given reduced taxes because of subsidence damage.

The Illinois Mine Subsidence Insurance Fund was established in 1979 when mine subsidence insurance was made available through insurance companies for the first time in Illinois. Since its inception through June 2008 the Fund reports 1,030 mine subsidence claims have been filed for property in Sangamon County. Of these 241 were confirmed as losses due to mine subsidence. Two hundred twenty were residential claims and twenty-one were commercial claims. The total amount paid was \$20.8 million with \$18.8 million for residential buildings and \$2 million for commercial buildings. This is an average of \$85,455 per home and \$95,238 per commercial structure.

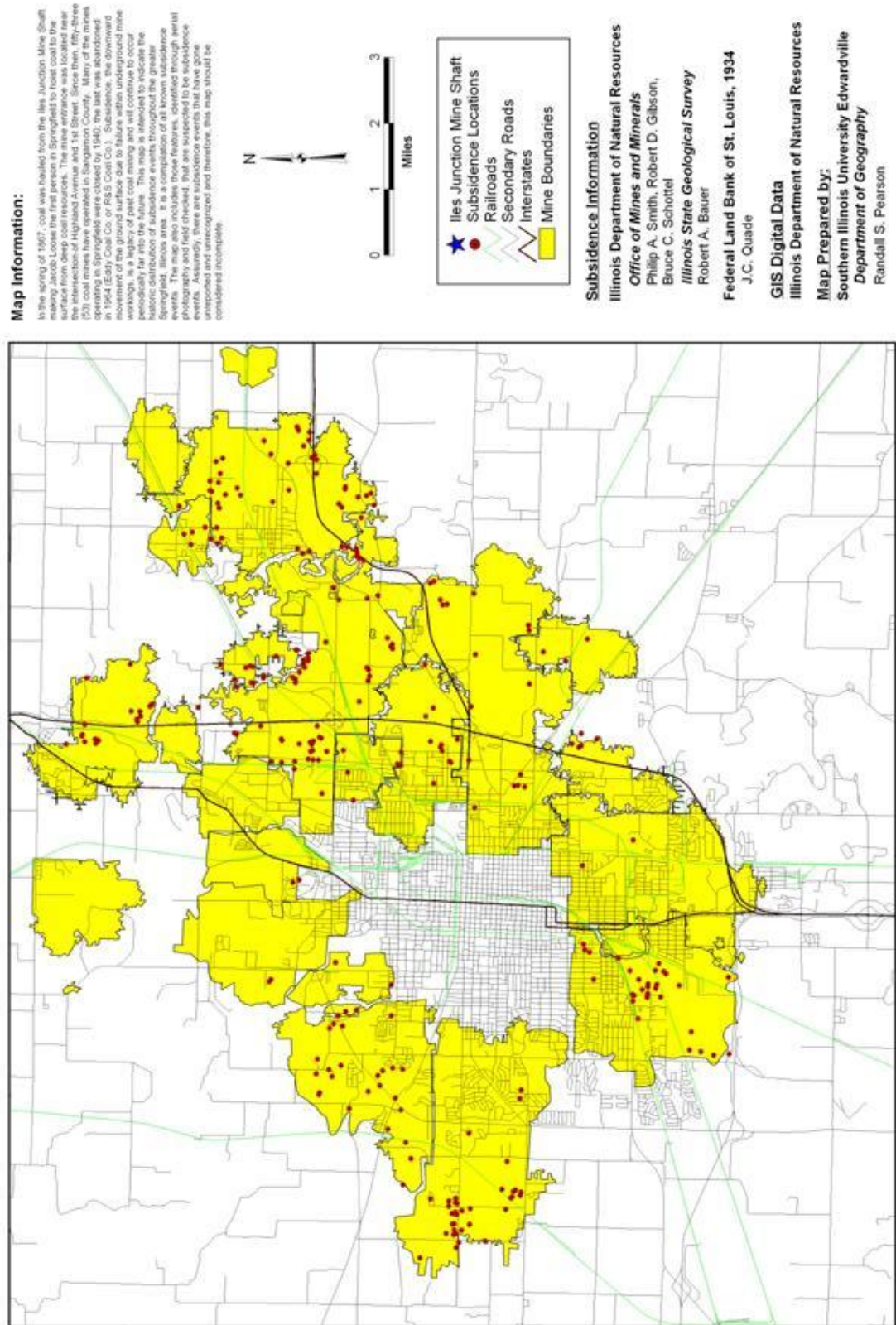
One note of interest is that residential structures can be insured for mine subsidence up to \$750,000. The maximum for commercial structures is \$350,000. Condominium units may be limited on insurance coverage depending on the insurance requirements for the association and unit owners established in the bylaws of the condominium association. If a commercial master policy is issued to the condominium association the limit on the entire structure would be subject to the \$350,000 maximum for commercial policies. If each individual living unit owner purchases coverage for their own unit then the residential policy limit applies.

Probability of future mine subsidence events.

With no data available on mine subsidence events in Sangamon County, a probability of occurrence cannot be calculated. However, with coal mines under 94.4 square miles of land in the planning area there is a high likelihood that subsidence will continue to occur. Robert Gibson with the IDNR, Office of Mines and Minerals believes that on average three mine subsidence events are experienced each year in Sangamon County.

Figure 31 Historic Distribution of Subsidence

Historic Distribution of Known and Suspected Subsidence Events Springfield, Illinois 1867-1998



MINE SUBSIDENCE –Assessing Vulnerability

There are many areas in Sangamon County that have been mined leaving homes, businesses, critical facilities, and infrastructure vulnerable to damage from subsidence. Generally, when a subsidence event occurs there is a relatively small area (a few acres) affected compared to other natural hazards. Besides doing damage to buildings, there is also the accompanying decrease in property values for those properties affected, as well as nearby properties.

If there is a mined out area subsidence will occur, but the location or timing of mine subsidence cannot be predicted. The length of a subsidence event is also unpredictable and can happen quickly over a few hours or days or slowly over years.

SEVERE STORM HAZARD

SEVERE STORMS – Description

What are severe storms?

Severe storms in Sangamon County are thunderstorms with winds of 50 knots (58 mph) or more or thunderstorms with damaging hail.

(from: Federal Emergency Management Agency)

“All thunderstorms are dangerous. Every thunderstorm produces lightning. In the United States an average of 300 people are injured and 80 people are killed each year by lightning. Although most lightning victims survive, people struck by lightning often report a variety of long-term, debilitating symptoms.”

Facts about thunderstorms:

- Thunderstorms may occur singly, in clusters, or in lines.
- Some of the most severe occur when a single thunderstorm affects one location for an extended time.
- Thunderstorms typically produce heavy rain for a brief period, anywhere from 30 minutes to an hour.
- Warm, humid conditions are highly favorable for thunderstorm development.
- About 10% of thunderstorms are classified as severe – one that produces hail at least $\frac{3}{4}$ of an inch in diameter, has winds of 58 miles per hour or higher, or produces a tornado.

Facts about lightning:

- Lightning’s unpredictability increases the risk to individuals and property.
- Lightning often strikes outside of heavy rain and may occur as far as 10 miles away from any rainfall.
- “Heat lightning” is actually lightning from a thunderstorm too far away for thunder to be heard.
- Most lightning deaths and injuries occur when people are caught outdoors in the summer months during the afternoon and evening.

Facts about hail:

- As a thunderstorm grows, updrafts will push water droplets into a region of the atmosphere which is below the freezing temperature. These water droplets collide with other droplets just before freezing, which is why some hailstones can grow to several inches in diameter. The stronger the updraft associated with a thunderstorm, the larger the hail associated with the storm will be.

The consequences of severe storms.

Element	Consequence
Rain	flooding, poor visibility, auto accidents, sewer backup, crop damage
Wind	building damage, downed power lines, auto accidents, tree damage, crop damage
Lightning	injury, death, fire, power outage, damage to electronics/appliances
Hail	building damage, vehicle, damage, crop damage

SEVERE STORMS – Profile

The locations affected by severe storms.

Severe storms can occur anywhere in Sangamon County and generally hit more than one location per event.

The extent of previous occurrences of severe storms in Sangamon County.

Figure 32 presents data on thunderstorms with high winds that have occurred in Sangamon County over the 53-year period from January 1, 1955 through April 30, 2007. During 44 of these years there was at least one thunderstorm with severe winds. Wind speeds are available for 95 of these thunderstorms and ranged from 50 knots to 95 knots. The thunderstorm with 95 knot wind speeds occurred in 1957 and produced the one F4 tornado that hit Sangamon County during this time period. The winds associated with thunderstorms in Sangamon County have otherwise averaged 55 knots (about 63 mph).

Figure 32 Thunderstorm and High Wind Events in Sangamon County

171 THUNDERSTORM & HIGH WIND event(s) were reported In Sangamon County, Illinois between 01/01/1955 and 4/30/2007. From: National Climatic Data Center				
Year	Location*	Date	Time	Magnitude
1955	1 SANGAMON	5/26/1955	1:33 PM	59 kts.
1956	2 SANGAMON	6/26/1956	2:12 PM	50 kts.
	3 SANGAMON	8/12/1956	9:30 PM	0 kts.
1957	4 SANGAMON	6/11/1957	1:15 PM	66 kts.
	5 SANGAMON	6/14/1957	2:05 PM	95 kts.
	6 SANGAMON	7/13/1957	7:40 PM	0 kts.
	7 SANGAMON	7/13/1957	7:40 PM	50 kts.
	8 SANGAMON	9/1/1957	1:30 PM	0 kts.
1959	9 SANGAMON	9/26/1959	4:00 PM	65 kts.
1961	10 SANGAMON	6/6/1961	3:08 PM	53 kts.
	11 SANGAMON	7/22/1961	4:16 PM	58 kts.
1962	12 SANGAMON	4/30/1962	12:30 PM	0 kts.
	13 SANGAMON	7/11/1962	6:00 PM	60 kts.
	14 SANGAMON	7/13/1962	1:17 PM	74 kts.
1963	15 SANGAMON	4/17/1963	6:49 PM	50 kts.
	16 SANGAMON	4/19/1963	3:00 AM	57 kts.
1964	17 SANGAMON	4/21/1964	5:00 AM	0 kts.
	18 SANGAMON	6/21/1964	5:00 AM	51 kts.
1965	19 SANGAMON	6/20/1965	6:05 PM	0 kts.
	20 SANGAMON	7/17/1965	3:45 AM	0 kts.
	21 SANGAMON	8/27/1965	8:30 AM	0 kts.
	22 SANGAMON	8/30/1965	8:35 PM	0 kts.

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1966	23 SANGAMON	7/5/1966	9:35 PM	52 kts.
1967	24 SANGAMON	4/16/1967	9:40 PM	56 kts.
	25 SANGAMON	4/16/1967	10:41 PM	58 kts.
	26 SANGAMON	4/21/1967	1:50 PM	0 kts.
	27 SANGAMON	7/10/1967	3:50 PM	53 kts.
1969	28 SANGAMON	6/28/1969	8:00 PM	55 kts.
	29 SANGAMON	8/9/1969	2:12 AM	0 kts.
	30 SANGAMON	10/10/1969	8:13 PM	0 kts.
	31 SANGAMON	10/10/1969	8:20 PM	0 kts.
1970	32 SANGAMON	5/9/1970	1:05 PM	53 kts.
	33 SANGAMON	6/14/1970	2:30 PM	51 kts.
	34 SANGAMON	7/19/1970	4:50 PM	0 kts.
	35 SANGAMON	7/31/1970	2:34 PM	0 kts.
1972	36 SANGAMON	9/28/1972	9:30 PM	53 kts.
1973	37 SANGAMON	3/31/1973	3:57 PM	50 kts.
	38 SANGAMON	6/18/1973	4:45 PM	70 kts.
1974	39 SANGAMON	3/4/1974	4:30 PM	0 kts.
	40 SANGAMON	3/29/1974	2:00 PM	65 kts.
	41 SANGAMON	4/21/1974	3:43 PM	50 kts.
	42 SANGAMON	5/30/1974	2:15 PM	0 kts.
	43 SANGAMON	7/28/1974	3:24 PM	50 kts.
1975	44 SANGAMON	5/26/1975	12:30 PM	0 kts.
	45 SANGAMON	5/30/1975	1:25 PM	0 kts.
	46 SANGAMON	11/9/1975	10:00 PM	0 kts.
	47 SANGAMON	11/9/1975	10:01 PM	51 kts.
	48 SANGAMON	11/29/1975	10:56 PM	66 kts.
1977	49 SANGAMON	5/4/1977	4:55 PM	74 kts.
	50 SANGAMON	8/6/1977	4:00 PM	0 kts.
	51 SANGAMON	10/1/1977	1:20 AM	0 kts.
1978	52 SANGAMON	5/12/1978	4:23 PM	50 kts.
	53 SANGAMON	5/12/1978	5:14 PM	57 kts.
	54 SANGAMON	7/26/1978	3:25 PM	50 kts.
	55 SANGAMON	8/27/1978	2:45 PM	0 kts.
1980	56 SANGAMON	4/8/1980	12:00 AM	52 kts.
	57 SANGAMON	9/6/1980	6:38 PM	0 kts.
1981	58 SANGAMON	4/3/1981	11:25 PM	0 kts.
	59 SANGAMON	6/15/1981	6:48 PM	0 kts.
1982	60 SANGAMON	4/16/1982	6:35 PM	56 kts.
	61 SANGAMON	6/7/1982	10:35 PM	0 kts.
1983	62 SANGAMON	5/1/1983	7:00 PM	0 kts.
1986	63 SANGAMON	7/29/1986	2:14 AM	61 kts.
	64 SANGAMON	7/29/1986	2:40 AM	0 kts.
	65 SANGAMON	7/31/1986	3:06 AM	52 kts.

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	66 SANGAMON	7/31/1986	3:40 AM	0 kts.
	67 SANGAMON	7/31/1986	3:45 AM	0 kts.
1987	68 SANGAMON	5/21/1987	8:57 PM	0 kts.
	69 SANGAMON	8/3/1987	7:30 PM	0 kts.
	70 SANGAMON	8/3/1987	8:12 PM	0 kts.
	71 SANGAMON	8/16/1987	8:32 PM	70 kts.
1988	72 SANGAMON	4/5/1988	6:36 PM	52 kts.
	73 SANGAMON	11/15/1988	10:00 PM	0 kts.
1989	74 SANGAMON	5/25/1989	12:30 AM	0 kts.
1990	75 SANGAMON	5/9/1990	12:30 PM	0 kts.
1991	76 SANGAMON	10/4/1991	5:00 PM	58 kts.
	77 SANGAMON	12/8/1991	3:00 PM	0 kts.
1992	78 SANGAMON	7/2/1992	3:30 PM	0 kts.
	79 SANGAMON	7/2/1992	8:00 PM	0 kts.
	80 SANGAMON	7/3/1992	12:35 AM	52 kts.
	81 SANGAMON	7/9/1992	5:38 PM	0 kts.
	82 SANGAMON	7/9/1992	5:54 PM	0 kts.
	83 SANGAMON	9/9/1992	5:40 PM	0 kts.
1993	84 Divernon	8/19/1993	4:00 PM	N/A
1994	85 Riverton	4/15/1994	3:34 AM	N/A
	86 Pawnee	4/26/1994	8:34 PM	N/A
	87 Pleasant Plains	6/16/1994	4:25 PM	N/A
	88 Pleasant Plains	6/23/1994	2:12 PM	N/A
	89 Pleasant Plains	7/2/1994	11:05 AM	N/A
	90 Cantrall	7/20/1994	5:25 PM	N/A
	91 Springfield	7/20/1994	5:40 PM	N/A
1995	92 Chatham	5/16/1995	7:30 PM	N/A
	93 Divernon	6/8/1995	7:22 AM	N/A
	94 Divernon	6/8/1995	8:15 AM	N/A
	95 Pleasant Plains	6/21/1995	8:10 PM	N/A
1996	96 Illiopolis	4/19/1996	6:17 PM	0 kts.
	97 Glenarm	5/8/1996	11:20 AM	70 kts.
1997	98 Springfield Airport	4/5/1997	3:15 PM	50 kts.
	99 Dawson	4/5/1997	3:40 PM	0 kts.
	100 Pleasant Plains	8/3/1997	11:15 PM	0 kts.
	101 New Berlin	8/15/1997	2:55 AM	0 kts.
1998	102 Pleasant Plains	3/27/1998	6:25 PM	0 kts.
	103 Glenarm	5/22/1998	8:30 AM	0 kts.
	104 Chatham	6/4/1998	6:58 PM	0 kts.
	105 Pleasant Plains	6/11/1998	2:00 PM	61 kts.
	106 Farmingdale	6/18/1998	6:40 PM	61 kts.
	107 Williamsville	6/28/1998	7:00 PM	0 kts.
	108 Countywide	6/29/1998	4:10 PM	61 kts.
	109 Divernon	7/22/1998	2:20 PM	0 kts.
	110 Pleasant Plains	11/10/1998	4:35 AM	55 kts.
	111 Pleasant Plains	4/8/1999	8:10 PM	0 kts.

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	112 Divernon	6/1/1999	6:01 PM	61 kts.
	113 Riverton	6/4/1999	4:12 PM	61 kts.
	114 Auburn	6/8/1999	1:45 PM	0 kts.
	115 Pleasant Plains	8/12/1999	8:00 PM	0 kts.
	116 Auburn	8/12/1999	9:10 PM	52 kts.
	117 Pleasant Plains	8/23/1999	6:20 PM	0 kts.
	118 Chatham	4/20/2000	5:03 AM	0 kts.
2000	119 New Berlin	5/26/2000	10:50 PM	0 kts.
	120 Illiopolis	6/14/2000	11:35 AM	0 kts.
	121 Springfield	6/20/2000	6:45 PM	0 kts.
	122 Springfield	6/23/2000	5:35 PM	0 kts.
	123 Auburn	7/5/2000	4:15 PM	0 kts.
	124 Springfield	8/17/2000	5:15 PM	0 kts.
	125 Riverton	8/17/2000	6:20 PM	0 kts.
2001	126 Springfield	2/9/2001	8:20 AM	50 kts.
	127 Springfield	5/22/2001	12:00 PM	50 kts.
	128 Chatham	5/26/2001	12:30 PM	50 kts.
	129 Springfield Airport	7/4/2001	9:30 PM	50 kts.
	130 Springfield Airport	7/17/2001	4:02 PM	54 kts.
	131 Springfield	7/23/2001	4:05 PM	52 kts.
	132 Springfield	8/2/2001	5:45 PM	50 kts.
2002	133 New City	10/24/2001	11:24 AM	50 kts.
	134 Pleasant Plains	4/19/2002	7:00 PM	64 kts.
	135 Mechanicsburg	6/4/2002	5:45 PM	50 kts.
	136 Buffalo	7/26/2002	10:05 PM	50 kts.
2003	137 Sherman	8/19/2002	4:53 AM	52 kts.
	138 Springfield	4/24/2003	5:45 PM	52 kts.
	139 Chatham	5/9/2003	7:10 PM	60 kts.
	140 Springfield Arpt	6/29/2003	5:05 PM	55 kts.
	141 Andrew	7/8/2003	6:17 PM	60 kts.
	142 Springfield Airport	7/8/2003	10:05 PM	52 kts.
	143 Springfield	7/21/2003	3:30 AM	52 kts.
2004	144 Springfield	4/20/2004	11:30 PM	50 kts.
	145 Countywide	5/24/2004	11:05 PM	69 kts.
	146 Springfield	5/31/2004	6:30 PM	52 kts.
	147 Chatham	8/17/2004	8:30 PM	50 kts.
	148 Springfield	8/27/2004	7:10 PM	52 kts.
	149 Springfield	10/29/2004	11:30 PM	50 kts.
2005	150 Springfield	6/8/2005	2:33 PM	50 kts.
	151 Chatham	6/8/2005	2:35 PM	55 kts.
	152 Springfield	6/8/2005	2:50 PM	50 kts.
	153 Chatham	6/13/2005	5:23 PM	60 kts.
	154 Chatham	6/13/2005	10:00 PM	50 kts.
	155 Curran	8/18/2005	9:30 PM	55 kts.
	156 Salisbury	11/5/2005	9:00 PM	50 kts.
	157 Springfield	11/28/2005	12:50 AM	50 kts.
2006	158 Auburn	1/2/2006	7:20 AM	60 kts.
	159 New Berlin	3/12/2006	8:04 PM	60 kts.
	160 Auburn	3/12/2006	8:30 PM	52 kts.
	161 Loami	3/12/2006	8:30 PM	50 kts.
	162 Springfield	3/12/2006	8:30 PM	58 kts.
	163 Auburn	3/13/2006	2:46 AM	60 kts.

	164 Pawnee	3/13/2006	3:20 AM	60 kts.
	165 Springfield	4/2/2006	5:01 PM	52 kts.
	166 Springfield	4/16/2006	12:45 PM	55 kts.
	167 Springfield Airport	4/18/2006	11:04 PM	51 kts.
	168 Pleasant Plains	5/24/2006	2:30 PM	52 kts.
	169 Cantrall	7/19/2006	4:03 PM	56 kts.
	170 Chatham	7/19/2006	4:44 PM	52 kts.
	171 New Berlin	8/18/2006	8:20 PM	50 kts.

*prior to 1993 specific locations were not recorded

Figure 33 shows hail events from January 1, 1955 – April 30, 2007. During 29 of these 53 years at least one hail event occurred in Sangamon County. The size of the hail reached a diameter of 2.5 inches during a 1974 hailstorm although most ranged from .75 – 1.75 inches. Thirteen of the hail events were associated with a tornado on the following dates – April 2, 1964, April 20, 2000, May 12, 2000, March 19, 2003, May 9, 2003, May 10, 2003, May 23, 2004, and March 12, 2006.

Figure 33 Hail Events in Sangamon County

89 HAIL events were reported in **Sangamon County, Illinois**
Between 01/01/1955 and 04/30/2007

Year	Location*	Date	Time	Magnitude
1956	<u>1 SANGAMON</u>	5/22/1956	7:15 PM	1.75 in.
	<u>2 SANGAMON</u>	9/15/1956	12:22 AM	1.75 in.
1958	<u>3 SANGAMON</u>	7/30/1958	7:35 AM	0.75 in.
	<u>4 SANGAMON</u>	7/30/1958	7:35 AM	0.75 in.
1961	<u>5 SANGAMON</u>	4/24/1961	7:45 AM	0.75 in.
	<u>6 SANGAMON</u>	5/6/1961	4:12 PM	1.75 in.
1963	<u>7 SANGAMON</u>	4/29/1963	2:45 PM	1.75 in.
1964	<u>8 SANGAMON</u>	4/2/1964**	5:32 PM	1.00 in.
	<u>9 SANGAMON</u>	4/2/1964**	7:23 PM	0.75 in.
	<u>10 SANGAMON</u>	4/19/1964	9:00 PM	1.75 in.
1965	<u>11 SANGAMON</u>	4/15/1965	12:56 PM	0.75 in.
1967	<u>12 SANGAMON</u>	4/21/1967	1:20 PM	1.75 in.
1972	<u>13 SANGAMON</u>	3/12/1972	5:43 PM	1.00 in.
1973	<u>14 SANGAMON</u>	6/18/1973	4:40 PM	1.50 in.
	<u>15 SANGAMON</u>	10/3/1973	2:55 PM	0.75 in.
1974	<u>16 SANGAMON</u>	4/3/1974	12:42 PM	2.50 in.
	<u>17 SANGAMON</u>	5/30/1974	2:15 PM	0.75 in.
1975	<u>18 SANGAMON</u>	5/11/1975	4:00 PM	1.50 in.
1982	<u>19 SANGAMON</u>	5/20/1982	3:22 PM	1.00 in.
	<u>20 SANGAMON</u>	9/14/1982	1:02 PM	1.00 in.
1985	<u>21 SANGAMON</u>	6/2/1985	1:00 AM	1.75 in.
1986	<u>22 SANGAMON</u>	5/6/1986	5:31 PM	1.00 in.
	<u>23 SANGAMON</u>	5/6/1986	7:15 PM	1.00 in.
	<u>24 SANGAMON</u>	5/8/1986	7:15 PM	1.00 in.
	<u>25 SANGAMON</u>	7/10/1986	7:15 PM	0.75 in.
	<u>26 SANGAMON</u>	8/10/1986	12:44 AM	0.75 in.
1987	<u>27 SANGAMON</u>	6/2/1987	12:10 PM	1.00 in.
	<u>28 SANGAMON</u>	6/2/1987	12:45 PM	1.00 in.
1992	<u>29 SANGAMON</u>	2/15/1992	3:15 AM	1.75 in.

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	<u>30 SANGAMON</u>	4/15/1992	3:50 PM	0.75 in.
1994	<u>31 Springfield</u>	5/24/1994	6:30 PM	0.75 in.
	<u>32 Springfield</u>	5/24/1994	6:37 PM	0.75 in.
1996	<u>33 Springfield</u>	4/18/1996	6:40 PM	1.75 in.
	<u>34 Mechanicsburg</u>	4/18/1996	7:31 PM	1.75 in.
	<u>35 Springfield/Riverton</u>	5/3/1996	8:25 PM	1.75 in.
	<u>36 Divernon/Pawnee</u>	6/2/1996	9:20 PM	1.75 in.
	<u>37 Sherman</u>	7/28/1996	6:40 PM	1.75 in.
	<u>38 Williamsville</u>	8/26/1996	2:45 PM	1.75 in.
1997	<u>39 Pleasant Plains</u>	3/28/1997	3:35 PM	1.75 in.
1998	<u>40 New Berlin</u>	4/7/1998	3:45 PM	1.75 in.
	<u>41 Cantrall</u>	4/7/1998	4:02 PM	1.75 in.
	<u>42 Pawnee</u>	4/7/1998	4:20 PM	1.75 in.
	<u>43 Divernon</u>	6/12/1998	4:57 PM	1.00 in.
1999	<u>44 Divernon</u>	5/5/1999	7:05 PM	0.88 in.
	<u>45 Lanesville</u>	6/4/1999	4:30 PM	0.75 in.
	<u>46 Divernon</u>	8/12/1999	9:15 PM	1.00 in.
2000	<u>47 Springfield</u>	4/20/2000**	7:30 AM	1.00 in.
	<u>48 Illiopolis</u>	4/20/2000**	8:05 AM	1.75 in.
	<u>49 Illiopolis</u>	5/12/2000**	4:00 PM	0.75 in.
	<u>50 Divernon</u>	5/12/2000**	5:00 PM	1.00 in.
	<u>51 Auburn</u>	5/23/2000	12:55 AM	1.00 in.
	<u>52 Springfield</u>	5/26/2000	11:13 PM	1.00 in.
2001	<u>53 Buffalo</u>	8/18/2001	2:15 PM	1.00 in.
2002	<u>54 Auburn</u>	5/1/2002	2:00 PM	1.75 in.
	<u>55 Springfield</u>	5/6/2002	11:05 PM	0.75 in.
	<u>56 Springfield</u>	5/7/2002	12:05 AM	1.75 in.
	<u>57 Auburn</u>	5/27/2002	2:35 PM	2.00 in.
	<u>58 Auburn</u>	3/19/2003**	4:40 PM	1.75 in.
2003	<u>59 Springfield</u>	3/19/2003	6:58 PM	1.00 in.
	<u>60 Loami</u>	4/4/2003	3:22 PM	0.75 in.
	<u>61 Pleasant Plains</u>	4/4/2003	3:23 PM	1.75 in.
	<u>62 Loami</u>	4/24/2003	5:05 PM	1.00 in.
	<u>63 Springfield</u>	4/24/2003	5:45 PM	1.00 in.
	<u>64 Jerome</u>	5/8/2003	10:25 PM	0.88 in.
	<u>65 Pleasant Plains</u>	5/9/2003**	6:52 PM	1.00 in.
	<u>66 Springfield</u>	5/9/2003	9:53 PM	0.75 in.
	<u>67 Loami</u>	5/10/2003**	6:40 AM	1.75 in.
	<u>68 Springfield</u>	8/3/2003	10:53 PM	0.75 in.
2004	<u>69 Loami</u>	5/23/2004**	5:18 PM	1.00 in.
2005	<u>70 Springfield</u>	3/30/2005	3:50 PM	0.88 in.
	<u>71 Springfield</u>	5/11/2005	4:45 PM	0.88 in.
	<u>72 Chatham</u>	5/11/2005	4:53 PM	0.75 in.
	<u>73 Riverton</u>	9/19/2005	5:35 PM	1.00 in.
	<u>74 Riverton</u>	9/19/2005	9:04 PM	1.75 in.
	<u>75 Springfield</u>	11/5/2005	9:35 PM	0.88 in.
2006	<u>76 Pleasant Plains</u>	3/11/2006	6:34 PM	0.88 in.
	<u>77 New Berlin</u>	3/11/2006	6:51 PM	1.00 in.
	<u>78 Springfield</u>	3/11/2006	7:05 PM	0.75 in.
	<u>79 New Berlin</u>	3/12/2006**	7:53 PM	1.75 in.
	<u>80 Springfield</u>	3/12/2006**	8:15 PM	1.00 in.
	<u>81 Springfield</u>	3/12/2006**	8:27 PM	0.75 in.

	<u>82 Auburn</u>	4/30/2006	2:27 PM	0.75 in.
	<u>83 Chatham</u>	4/30/2006	2:39 PM	0.75 in.
	<u>84 Riverton</u>	6/26/2006	5:16 PM	0.88 in.
	<u>85 Williamsville</u>	7/19/2006	4:08 PM	0.88 in.
	<u>86 Chatham</u>	7/19/2006	4:44 PM	0.88 in.
	<u>87 Springfield</u>	9/22/2006	5:50 PM	0.75 in.
	<u>88 Sherman</u>	9/22/2006	5:54 PM	1.00 in.
2007	<u>89 Sherman</u>	4/3/2007	9:55 AM	0.01 in.

*prior to 1993 specific locations were not recorded

Previous occurrences of severe storms in Sangamon County.

Severe storms occur with regularity in Sangamon County. Some examples of damage done are:

- Power outages leaving thousands of people without electricity.
- Numerous trees damaged or destroyed.
- In July 1994 many windows were broken at the grade school in Cantrall.
- In July 2001 two semitrailers were blown over on I-72 north of Curran.
- In February 1999 roof damage was done to the Illinois Supreme Court Building.
- Grain bins have been blown over and machine sheds damaged.
- In August 1987 fifty-eight people sustained minor injuries at the Illinois State Fair.
- Homes have been damaged and some mobile homes have been destroyed.
- Businesses have temporarily closed due to power outages.

Figures 34 and 35 show the breakdown of months and times of day when severe storms have occurred in Sangamon County from January 1955 through April 2007. Thunderstorms are most likely to occur in Central Illinois in the months of April through August and during the evening hours of 4:00 – 9:00 PM. Hailstorms are most likely to occur during April and May, during the evening hours.

Figure 34 Thunderstorms in Sangamon County from 1/1/1955 – 4/30/2007

Month	# of Events
January	1
February	1
March	10
April	25
May	22
June	34
July	36
August	23
September	5
October	6
November	7
December	1
TOTAL	171

Time of Day	# of Events
Midnight – 5:00 AM	23
5:00 AM - Noon	10
Noon – 4:00 PM	38
4:00 PM – 9:00 PM	76
9:00 PM – Midnight	24
TOTAL	171

Figure 35 Hailstorms in Sangamon County from 1/1/1955 – 4/30/2007

Month	# of Events
January	0
February	1
March	11
April	23
May	27
June	8
July	6
August	5
September	6
October	1
November	1
December	0
TOTAL	89

Time of Day	# of Events
Midnight – 5:00 AM	7
5:00 AM – Noon	7
Noon – 4:00 PM	22
4:00 PM – 9:00 PM	43
9:00 PM – Midnight	10
TOTAL	89

Probability of future events.

Severe storms are expected in Sangamon County. During the 53-year period from 1955 – 2007 there were 171 thunderstorms with severe winds that occurred during 44 of the years. (There were no severe thunderstorms recorded during nine of these years.) This indicates an 83% probability that in any given year at least one thunderstorm with severe winds will occur. During 36 years more than one such storm occurred. This indicates a 68% probability that in any given year more than one thunderstorm with severe winds will hit Sangamon County.

Hail events were reported during 29 of these 53 years. This indicates a 55% probability that in any given year a hailstorm will occur. During 19 years more than one hailstorm occurred. This indicates a 36% probability that in any given year more than one hailstorm will hit somewhere in Sangamon County.

SEVERE STORMS-Assessing Vulnerability

With the presence of lightning, high winds, driving rain, and hail posing the threat of injury and death, severe storms are a danger to people.

Additionally, building damage can occur from flying and falling debris, lightning strikes, blowing wind, hail, and rain if windows are broken, roofs are compromised, or other damage occurs. If one-third of the planning area were affected by a severe storm and 1% of the buildings sustained some damage then the costs could be:

$\$12,148,597,742$ (total value of all buildings) $\times .33 = \$4,009,037,255$ (value of 1/3 of buildings)

$\$4,009,037,255$ (value of 1/3 of buildings) $\times .01 = \$40,090,373$ (value of 1% of 1/3 of buildings = building value exposed to damage)

The critical facility that is most often a concern during a severe storm is the electrical supply infrastructure. Winds, lightning, and falling trees can damage power lines requiring many dollars and hours of work to repair. People's lives are disrupted by power outages and there is an economic impact to businesses when they are unable to operate.

TORNADO HAZARD

TORNADO – Description

What is a tornado?

(from the Federal Emergency Management Agency)

Tornadoes are nature's most violent storms. Spawned from powerful thunderstorms, tornadoes can cause fatalities and devastate a neighborhood in seconds. A tornado appears as a rotating, funnel-shaped cloud that extends from a thunderstorm to the ground with whirling winds that can reach 300 miles per hour. Damage paths can be in excess of one mile wide and 50 miles long. Every state is at some risk from this hazard.

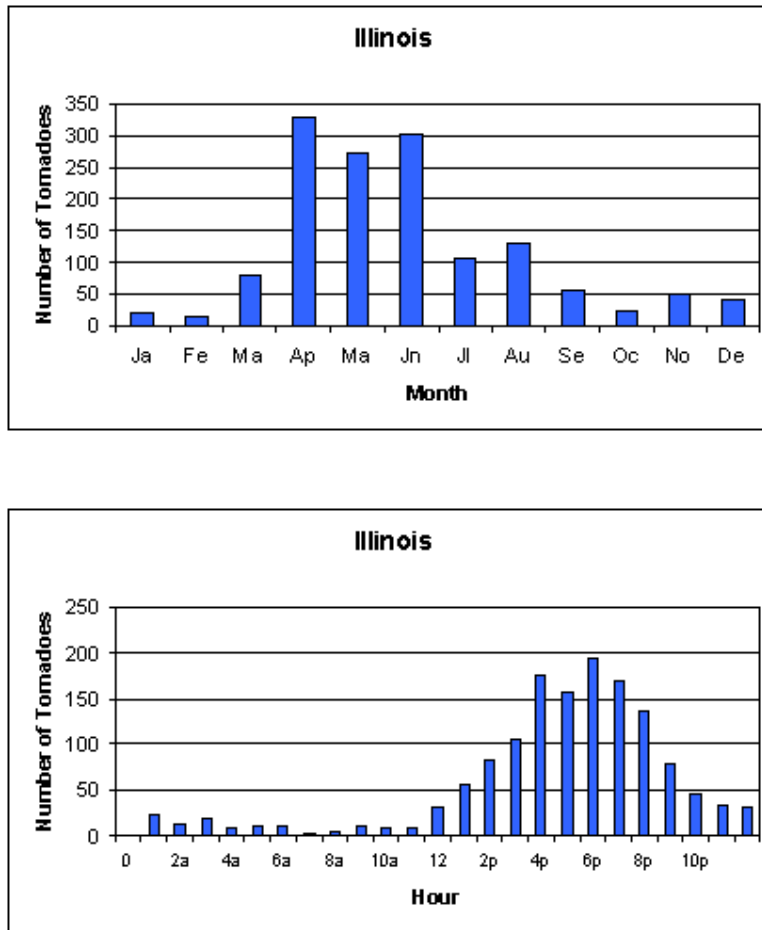
Some tornadoes are clearly visible, while rain or nearby low-hanging clouds obscure others. Occasionally, tornadoes develop so rapidly that little, if any, advance warning is possible.

Before a tornado hits, the wind may die down and the air may become very still. A cloud of debris can mark the location of a tornado even if a funnel is not visible. Tornadoes generally occur near the trailing edge of a thunderstorm. It is not uncommon to see clear, sunlit skies behind a tornado.

The following are facts about tornadoes:

- They may strike quickly, with little or no warning.
- They may appear nearly transparent until dust and debris are picked up or a cloud forms in the funnel.
- The average tornado moves southwest to northeast, but tornados have been known to move in any direction.
- The average forward speed of a tornado is 30 MPH, but may vary from stationary to 70 MPH.
- Waterspouts are tornadoes that form over water.
- Tornadoes are most frequently reported east of the Rocky Mountains during spring and summer months.
- Peak tornado season in the southern states is March through May; in the northern states, it is late spring through early summer.
- Tornadoes are most likely to occur between 3 p.m. and 9 p.m., but can occur at any time.

Figure 36 Previous Illinois Tornado Occurrences (from: Illinois State Water Survey)



How are tornadoes rated?

The classification system used for tornadoes is the Fujita Scale, which is based on wind speed and damage caused. The original scale is shown in Figure 37. On February 1, 2007 an Enhanced Fujita Scale (see Figure 38) was implemented, although it would not apply to the historical data given for Sangamon County.

Figure 37 Original Fujita Scale (from: Illinois State Water Survey)

Scale	Wind Speeds	Typical Damage
F-0	40-72 mph	tree branches broken
F-1	73-112 mph	mobile homes pushed off foundation
F-2	113-157 mph	considerable damage, mobile home demolished, trees uprooted
F-3	158-205 mph	roofs and walls blown down, cars thrown
F-4	207-260 mph	well-constructed buildings leveled
F-5	261-318 mph	massive destruction, autos thrown as far as 100 meters

Figure 38 Comparison of Fujita Scale and Enhanced Fujita Scale

Fujita Scale			Enhanced Fujita Scale	
F Number	Fastest ¼-mile (mph)	3 Second Gust (mph)	EF Number	3 Second Gust (mph)
0	40-72	45-78	0	65-85
1	73-112	79-117	1	86-110
2	113-157	118-161	2	111-135
3	158-207	162-209	3	136-165
4	208-260	210-261	4	166-200
5	261-318	262-317	5	Over 200

TORNADO – Profile

The locations affected by tornados.

Tornados can and have occurred throughout the County. The paths of the tornados recorded from 1950 – 2005 are shown in Figure 39 and the paths of the 2006 tornados are shown in Figures 40 and 41.

Figure 39 Tornadoes in Sangamon County 1950 - 2005 (from: National Weather Service)

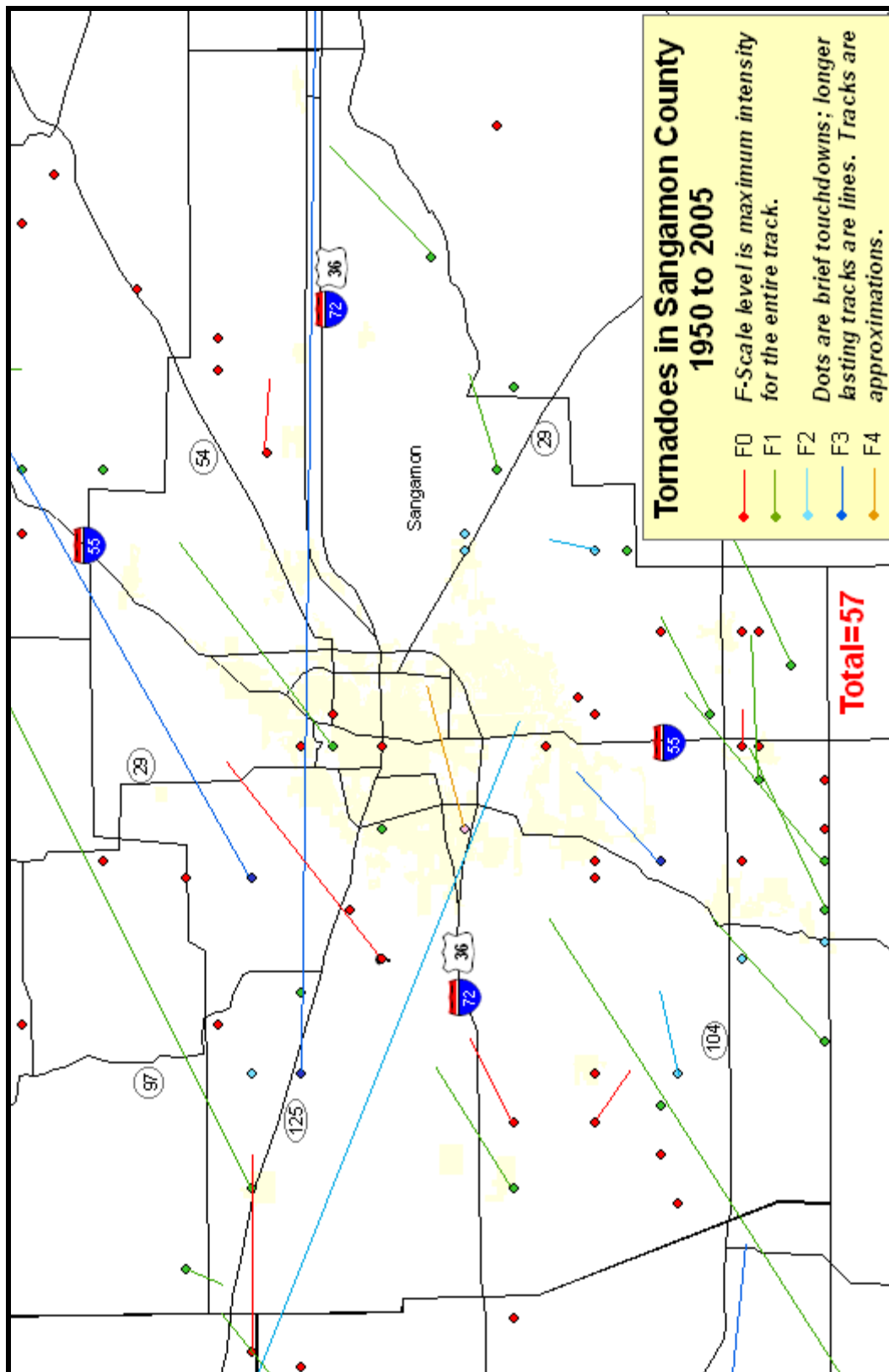


Figure 40 Tornado Tracks of March 12, 2006 (from: National Weather Service)

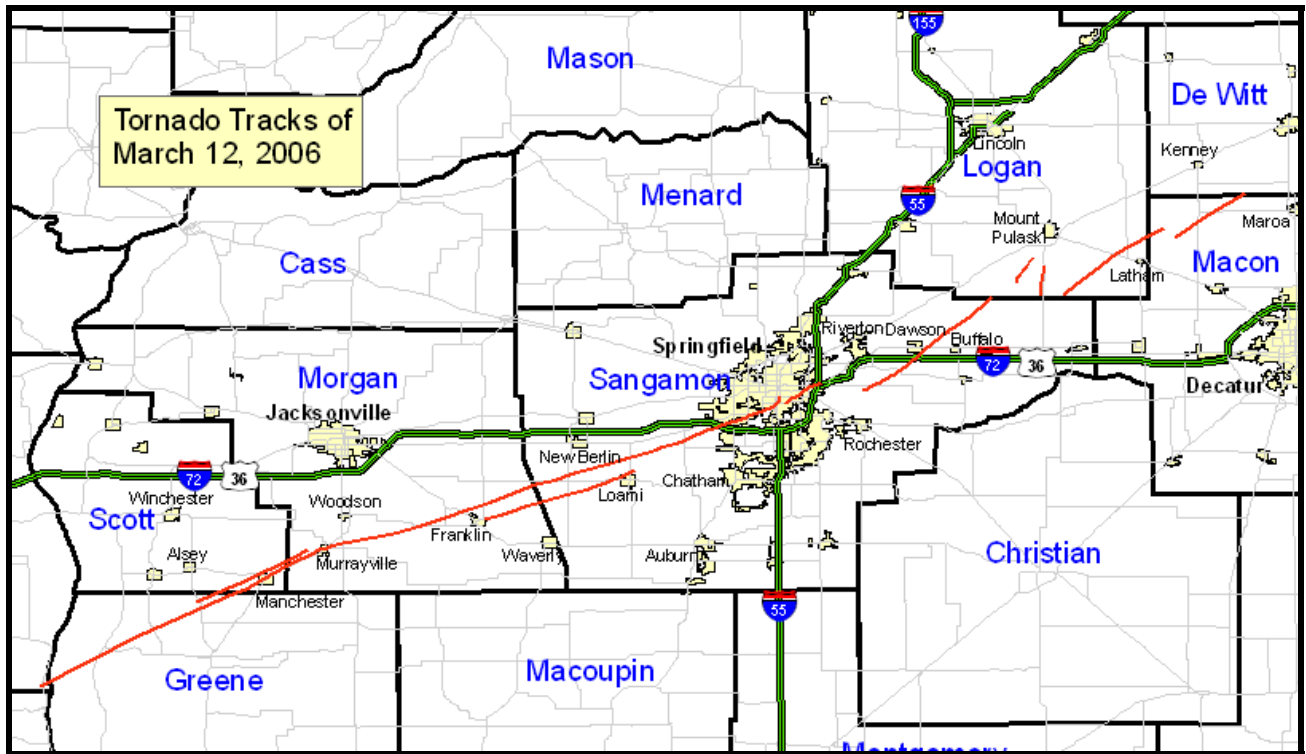
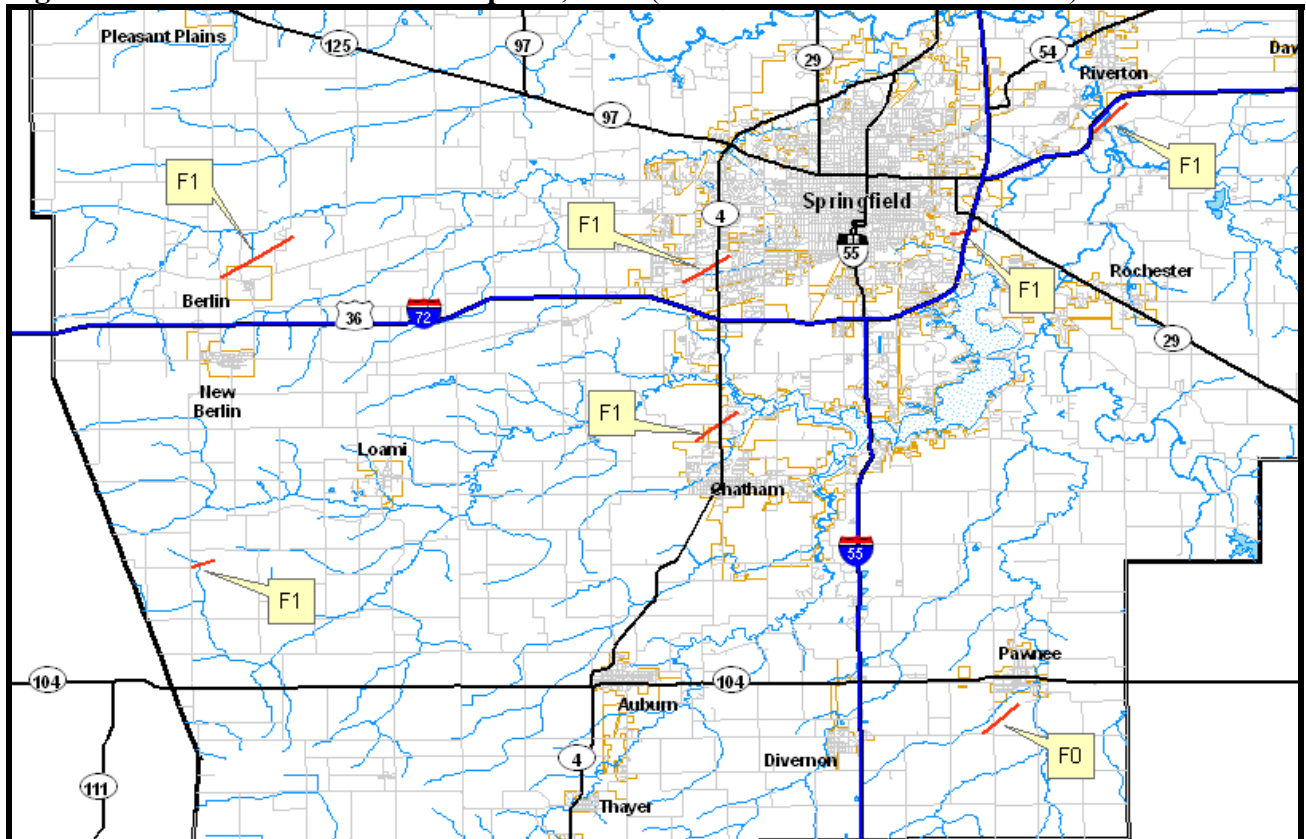


Figure 41 Tornado Tracks of April 2, 2006 (from: National Weather Service)



The extent of previous occurrences of tornados in Sangamon County.

Figure 42 Tornados Reported in Sangamon County from January 1, 1950 – December 1, 2007

(from: National Climatic Data Center and National Weather Service*)

Year	Date	Time	Magnitude	Deaths	Injuries	\$Property Damage
1954	3/12/1954	6:00 PM	F1	0	0	250K
1957	5/13/1957	11:00 AM	F1	0	0	0
	6/14/1957	2:00 PM	F4	2	50	2.5M
1960	6/23/1960	2:50 AM	F2	0	0	250K
1961	5/14/1961	10:10 PM	F1	0	0	250K
1962	5/26/1962	5:30 AM	F2	0	0	3K
1963	4/22/1963	5:30 PM	F3	1	5	250K
1964	4/2/1964	6:45 PM	F2	0	0	25K
1973	6/16/1973	9:58 PM	F0	0	0	0
1975	8/14/1975	5:58 PM	F2	0	0	25K
	11/29/1975	11:20 PM	F1	0	1	250K
1977	8/6/1977	3:25 – 4:10 PM	6-F0, 9-F1, 1-F2, 1-F3	0	0	3.8M
1978	7/26/1978	3:30 PM	F?	0	0	250K
1980	7/10/1980	5:00 AM	F2	0	0	250K
1981	6/8/1981	8:40 PM	F0	0	0	0
1985	7/14/1985	11:44 PM	F0	0	0	25K
1986	5/16/1986	4:20 – 4:25 PM	2-F0	0	0	0
1988	5/8/1988	5:18 PM	F2	0	0	250K
1990	6/2/1990	4:30 PM	F1	0	0	25K
	6/20/1990	12:15 AM	F1	0	0	25K
1996	4/19/1996	5:32 PM	F0	0	0	250K
	5/27/1996	9:45 PM	F0	0	0	0
1998	6/29/1998	4:30 – 4:36 PM	2-F0	0	0	130K
1999	4/8/1999	7:53 PM	F0	0	0	0
2000	4/20/2000	8:05 AM	F0	0	0	0
	5/12/2000	3:30 PM	F0	0	0	0
	6/20/2000	6:44 PM	F0	0	0	1K
2003	3/19/2003	1:25 PM	F0	0	0	0
	5/9/2003	6:40 PM	F0	0	0	0
	5/10/2003	6:53 – 6:58 AM	3-F0	0	0	45K
	6/11/2003	5:20 – 5:22 AM	2-F0	0	0	0
2004	5/23/2004	6:27 PM	F0	0	0	0
	5/24/2004	11:09 PM	F1	0	0	0
	8/26/2004	5:09 PM	F0	0	0	0
2006	3/12/2006*	8:00 – 8:32PM	1-F1, 3-F2	0	0	unknown
	4/2/2006*	5:46 – 6:13 PM	1-F0, 6-F1	0	0	Unknown
2007	9/6/2007*	5:28 PM	F0	0	0	0

Previous occurrences.

Central Illinois is a prime area for tornados. During the time period of January 1, 1950 through December 1, 2007 there were 67 tornados reported. These occurred during 37 weather events, seven of which included more than one tornado (see Figure 42). Sangamon County ranks second in the State, only behind McLean County, for number of tornados during this time period. Sangamon County is fourth in the State for the number of tornados per square mile, behind Logan, Macon, and McLean Counties. Following is statistical data related to tornado events in Sangamon County.

Figure 43 Sangamon County Tornados 1/1/1950-12/1/2007

Time of Day	Number of Events	Number of Tornados
5:00 am – 8:00 am	6	9
11:00 am	1	1
1:00 pm – 2:00 pm	2	2
3:00 pm – 10:10 pm	23	50
11:00 pm – 2:50 am	5	5
TOTAL	37	67

Month	Number of Events	Number of Tornados
January	0	0
February	0	0
March	3	6
April	6	12
May	11	14
June	9	11
July	3	3
August	3	19
September	1	1
October	0	0
November	1	1
December	0	0
TOTAL	37	67

Magnitude	Number of Tornados	Percent of Total
F0	30	45 %
F1	23	34 %
F2	10	15 %
F3	2	3 %
F4	1	1.5 %
unknown	1	1.5 %
TOTAL	67	100 %

The months of April, May and June are the most likely time for weather events that spawn tornados, although in August 1977 one weather event produced 17 different tornados in the County.

Most of Sangamon County's tornadoes have been of a lower magnitude, although very destructive tornadoes can and do occur.

Seventy-nine percent of the tornadoes that occurred from 1950 – 2007 have been of the lower magnitudes, F0 and F1, although up to \$250,000 damage per event has been reported. Fifteen percent have been rated F2, while the remaining 3% were F3 or F4.

Seven times a single weather event produced more than one tornado. In August 1977 seventeen tornadoes touched down over a 45 minute time period. Three people have been killed and 56 people injured by tornado events since 1950 in Sangamon County.

The most damaging tornado touched down on June 14, 1957 and was rated F4. It caused two deaths, fifty injuries, and \$2.5 million in property damage, including 25 homes that were completely destroyed and 175 homes that were severely damaged.

Probability of future events.

The paths, magnitudes, and numbers of tornadoes are unpredictable over time but with the history of tornado events in Sangamon County the probability of occurrence in any one year is fairly high. As seen in Figure 42 above, in the 58-year period from 1950 to 2007, there were 25 years when at least one tornado was recorded in Sangamon County. This indicates a 43% probability that a tornado will hit somewhere in Sangamon County in any given year. There were 8 years (1957, 1975, 1990, 1996, 2000, 2003, 2004, and 2006) when more than one weather event spawned a tornado during the 58 year period. This indicates a 14% probability that tornado events will occur more than once during any given year in Sangamon County.

Recent tornado experiences in Sangamon County.

The tornadoes that came through the County in March 2006 were the most recent to cause major destruction and resulted in Presidential Disaster Declaration 1633. The two that came through Springfield and Jerome were rated as F2 and followed a path nearly identical to that of the F4 tornado that hit in 1957.

Although there was substantial property damage in 2006, no deaths or serious injuries were reported. The tornadoes varied in width from 100 yards to ½ mile. Many homes and businesses were damaged, some completely destroyed. Extensive damage occurred to electrical lines, telephone lines, and cable television lines with service unavailable for several days to over a week in areas hit by the tornadoes. There were numerous damaged and downed trees which in turn created damage to buildings, fences, utility lines, and vehicles and blocked roadways. Recovery efforts started immediately but with the extensive damage debris removal alone took many months and property owners waited months and in some cases over a year for building repairs to be completed. Some businesses never reopened.

According to an article in the State Journal Register some of the costs of tornado damage were:

FEMA Assistance to Local Governments:	\$12,774,995
FEMA Housing Assistance:	\$ 632,985 (264 households)
FEMA Moving/Storage/Personal Property/Transportation	\$ 434,269 (340 households)
FEMA Assistance to Those Put Out of Work	\$ 34,761 (24 applicants)
American Red Cross	\$ 588,564 (699 cases)
CWLP Utility Infrastructure Repair	\$11,600,000

TORNADO –Assessing Vulnerability

The magnitudes of tornados in Sangamon County have ranged from F0 – F4 although F5 tornados have occurred in other parts of Illinois so an F-5 tornado is not out of the realm of possibility here. The design wind speed for our area is 250 mph.

There is a high likelihood that any given tornado in Sangamon County will be of a lower rating (F0 or F1) although substantial damage has occurred at these magnitudes. Although less likely, tornados of higher intensity have occurred and should be addressed in the calculation of potential damage.

An F4 tornado can cause substantial damage, leveling even well-constructed buildings. According to the Illinois State Water Survey website an F4 tornado can have a path over 1,200 feet wide and over 20 miles long. This would translate to approximately 4.5 square miles of damage.

The first F2 tornado to hit Springfield on March 12, 2006 had already been on the ground for 60 miles. It traveled approximately 13 of those miles through an unincorporated area of the County and then continued for 5.5 miles through the urbanized area with a width ranging from 900 feet to 2,640 feet.

Using the above information, the damage that could have been caused if the 2006 tornado had been of the magnitude of an F4 tornado is extrapolated as follows.

Unincorporated Area of Sangamon County

13 miles x 1,200 feet (.23 mile) width = 3 square miles or .4% of the entire unincorporated area

.004 x \$1,864,123,450 (total value of buildings in the unincorporated area) = \$7,456,494 if property is damaged at 100% of value

Urbanized Area-Springfield

4.5 miles x 1,200 feet (.23 mile) = 1.035 square miles or 2% of the area of Springfield

.02 x \$8,504,333,579 (total value of buildings in Springfield) = \$170,086,672 if property is damaged at 100% of value

Urbanized Area-Jerome

1 mile x 1,200 feet (.23 mile) = .23 square mile or 58 % of the area of Jerome

.58 x \$60,485,110 (total value of buildings in Jerome) = \$35,081,364 if property is damaged at 100% of value

Total

\$7,456,494 + \$170,086,672 + \$35,081,364 = \$212,624,530 potential property damage at 100% of value

The “value of buildings” figures are based on the property tax assessment-based market value for all but critical facilities for which replacement value based on square footage was used. Since the damage to buildings caused by the F4 tornado in 1957 was complete or severe this would be a likely scenario for another such occurrence. An F4 tornado is estimated to damage 50% of a structures value. If the structure is a manufactured home, an F4 will result in 100% damage.

Fifty percent damage of structures would be \$106,312,265. Including contents value as well as damage to vehicles, it would be conceivable that between \$106 and \$212 million in property damage could occur if an F4 tornado took the same path as the first tornado that hit Springfield in March 2006.

There is also the expectation that lives would be at great risk. The planning area has a population of 176,440 people (2000 U.S. Census) plus the area attracts tourists from around the world and commuters who travel here to work from nearby counties.

The economic loss to businesses and the community when workplaces are damaged is also a consideration. Businesses can be impacted in the short-term, such as downtime due to power outages, lack of access, and minor damage, or in the long-term if major damage occurs resulting in extended temporary closure or permanent closure.

WINTER STORM HAZARD

WINTER STORM – Description

What is a winter storm?

Winter storms in Sangamon County consist of snow and ice and at times result in blizzard conditions. Winter storms can produce flooding, storm surge, closed highways, blocked roads, downed power lines and hypothermia.

Snowfalls are generally measured in inches but at times have reached over one foot. Blowing snow reduces visibility and is the cause of many vehicle accidents.

- A heavy snowstorm is one that produces at least 6” of snow within 48 hours.
- A blizzard is a winter storm with sustained winds or frequent gusts of 35 mph or greater and considerable falling or blowing snow reducing visibility to less than ¼ mile for three hours or longer. Drifting is a major concern with roadways being blocked and buildings and driveways becoming inaccessible.

Freezing rain and sleet create slippery roadways and sidewalks causing dangerous conditions and can weigh down tree limbs and power lines causing damage and power outages.

- Freezing rain is rain that freezes when it hits the ground, trees, power lines and buildings, creating a coating of ice.
- Sleet is rain that turns to ice pellets before reaching the ground and creates slippery conditions.

The information in Figure 44 was provided by Chris Miller of the National Weather Service in Lincoln, Il and shows historical snow data for Springfield (the only NOAA observing site in Sangamon County).

The Springfield area can expect about 18 days of snowfall per winter with the largest amount coming in January and February. Of the 11 biggest snowstorms cited six (55%) occurred in February, three (27 %) occurred in January, and two (18%) occurred in December.

Figure 44 Snow Data for Springfield (1893-2006)

Normal Snowfall	
January	5.6"
February	5.5"
March	3.6"
April	0.5"
May	0
June	0
July	0
August	0
September	0
October	0.1"
November	1.3"
December	4.5"
Annual	21.1"

Frequency of Snowfall Occurrence	
0.1 – 1"	12 days per year
1 – 2"	3 days per year
2 – 4"	2 days per year
4 – 6"	1 day per year
6"	once every 2 years
TOTAL	about 18 days per year

Biggest Snowstorms	
February 28, 1900	17.5"
December 19, 1973	14.6"
January 2, 1999	13.3"
February 24, 1965	13.0"
February 19, 1908	12.8"
January 31, 1914	12.6"
February 13, 2007	11.8"
December 25, 1915	10.8"
February 13, 1894	10.7"
January 12, 1964	10.3"
February 23, 1914	10.1"

WINTER STORM – Profile

The locations affected by winter storms.

Winter storms generally occur throughout Central Illinois during any single event and the entire County is affected.

The extent of previous occurrences of winter storms in Sangamon County.

Figure 45 presents data on winter storms in the Central Illinois area, including Sangamon County, over the 12 year period from January 1, 1995 through March 31, 2007. During each of the 1995-96, 1996-97, and 1997-98 winter seasons four severe storms were documented. During two winter seasons two snowstorms were recorded. During three winter seasons one snowstorm hit the area. During three winter seasons there were no winter storms.

The amount of snow that falls can vary throughout the County for any one winter storm event. (See Figure 45). Of the snowstorms cited the amount of snow ranged from 2" to 12". In the historical snow storms shown in Figure 44 however, 17.5" fell in February 1900. Along with the snow, heavy winds can create whiteout conditions and drifting. Wind speeds of between 20 and 50 mph have been recorded during snowstorms in Sangamon County.

Eight of these storms included ice or freezing rain.

Previous occurrences of winter storms in Sangamon County.

Winter storms create treacherous conditions for travel and dangerous situations when power outages also occur. Figure 45 shows data on winter storms in the central Illinois area. The statistics shown are for a multi-county area, but all of these storms hit Sangamon County. In this larger area during the 12 year period 11 people died and 47 people suffered injuries in relation to winter storms.

Figure 45 Winter Storm Events in Central Illinois from January 1, 1995 – March 31, 2007
(from: National Climatic Data Center)

Winter Season	Date	Time	Extent	Death	Injuries	Property Damage
1995-1996	12/08/95	7:00 AM	≤ 5" snow, low temperatures, 20-30 mph winds, wind chill -45°, blowing snow	1	0	0
	12/18/95	7:00 PM	freezing rain, ≤ 6" snow, 20-30 mph winds, blowing snow	1	0	0
	01/04/96	3:00 AM	2"-7" snow	0	0	0
	01/18/96	10:00 AM	low temperatures, ice, 25-35 mph, wind chill -40°	0	2	0
1996-1997	01/08/97	9:00 PM	3"-11" snow	0	6	0
	01/15/97	3:00 AM	4"-6" snow, 20-30 mph winds, blowing snow, low temperatures, wind chill -40°	1	7	0
	01/24/97	7:00 AM	freezing rain, sleet, ≤ 2" snow	0	0	0
	01/26/97	5:00 AM	1"-9" snow	0	9	0
1997-1998	12/09/97	3:00 PM	≤ 6" snow	1	0	0
	12/30/97	8:00 AM	3"-6" snow	3	0	0
	01/14/98	6:00 AM	freezing rain, sleet, snow	0	0	0
	03/08/98	10:00 PM	freezing rain, snow, 50 mph winds	2	0	0
1998-1999	01/01/99	12:00 PM	≤ 6" snow, low temperatures, dangerous wind chills, blowing snow	1	1	0
	03/08/99	12:00 PM	freezing rain, 2"-6" snow	0	5	0
1999-2000	03/11/00	4:00 AM	6"-8" snow, blowing snow	1	9	0
2001-2002	02/26/02	1:00 AM	5.5"-7" snow, 15-40 mph winds, blowing snow	0	0	0
	03/25/02	9:00 PM	freezing rain, sleet, 4"-7" snow, blowing snow	0	0	0
2002-2003	02/14/03	11:00 PM	4"-8" snow, blowing snow	0	0	0
2004-2005	11/24/04	3:00 PM	4"-6" snow, 20-50 mph winds, blowing snow	0	4	0
2006-2007	11/29/06	10:00 PM	8"-12" snow	0	0	0
	12/01/06	12:00 AM	8"-12" snow	0	4	\$ 10.0M
	01/12/07	2:00 PM	ice storm	0	0	0
	02/13/07	12:00AM	freezing rain, sleet, 9"-12" snow, 25-50 mph winds	0	0	0
TOTALS				11	47	\$10.0M

In March 1978 an ice storm hit Sangamon County that was accompanied by strong winds and rainfall bringing the area to a halt for many days. Just venturing outdoors was dangerous with power lines and trees falling due to the weight of the ice. The utility line damage was so overwhelming that restoring power took two weeks.

Probability of future events.

Winter storms are expected in Sangamon County. During the 12 year period from 1995 – 2007 twenty-three winter storms occurred during nine winter seasons. (There were no winter storms recorded during three winter seasons.) This indicates a 75% probability that in any given year at least one winter storm will occur. During 5 winter seasons more than one snowstorm occurred. This indicates a 42% probability that in any given year more than one winter storm will hit Sangamon County.

WINTER STORMS-Assessing Vulnerability

Winter storms are very disruptive to a community. Roads can become impassable or extremely dangerous. Buses, trains, and airplanes can be cancelled or delayed. With transportation networks disrupted emergency response can become delayed or non-existent, mail is not delivered, and shipments of food and other consumer items can be delayed. Schools close, businesses close, and some (or all) government services are not available.

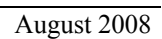
There is a toll that can be taken on people related to treacherous road conditions, snow shoveling exertion, and extremely low temperatures. About 70% of injuries caused by winter storms are the result of vehicle accidents while 25% of injuries occur to people caught out in the storm. Of the 11 deaths shown in Figure 45 that occurred in the larger Central Illinois region during 1995-2007 nine, or 82%, were due to vehicle accidents, one was due to exposure, and one occurred when a garage overhang collapsed.

Generally, buildings are not damaged on a large scale during a winter storm although a heavy snow could cause roof damage and the accumulation of ice in gutters can cause building damage. The roof snow load for structures in Sangamon County is 30 pounds per square foot. Any building constructed in a community that has adopted building codes must meet this standard.

There is a large cost to road departments for the removal of snow. The Sangamon County Highway Department spent \$126,000 to remove the eight inches of snow that fell during the December 15, 2007 snowstorm.

The damage caused to power and communication lines can be extensive with the ability to bring them back on line delayed because of the adverse conditions. The cost of repair can be high and the consequences can range from being inconvenient to life-threatening.

Presidential Disaster Declaration 1681 included Sangamon County and was issued on February 9, 2007 after the massive snow storm that hit a large area of central Illinois.



Vulnerability of Future Buildings

Dam failure: the dam failure inundation areas are generally coterminous with the floodplain areas down stream. Future structures will be subject to the building protection requirements of local flood ordinances.

Drought: buildings are not generally affected by drought.

Earthquakes: there is no way to pinpoint where earthquake damage could occur and the probability of occurrence is low. The vulnerability of future buildings to earthquake damage is similar to that of existing buildings.

Extreme heat: buildings are not generally affected by extreme heat.

Floods: all communities in Sangamon County that experience flooding have flood ordinances that require the lowest floor of all new buildings to be elevated to at least one foot above the base flood elevation or any non-residential building to be flood-proofed below the base flood elevation.

Mine subsidence: much of the plan area has been undermined for coal. There is no pattern to the occurrence of mine subsidence so specific vulnerability cannot be pinpointed.

Severe storms: the entire County is vulnerable to severe storms. Those communities that have or will adopt building codes will lessen the vulnerability for new structures.

Tornados: the entire County is vulnerable to tornados. Those communities that have or will adopt building codes will lessen the vulnerability for new structures.

Winter storms: the entire County is vulnerable to winter storms. Those communities that have or will adopt building codes will lessen the vulnerability for new structures.

Chapter 3 Mitigation Strategy

HAZARD MITIGATION GOALS

After having reviewed the risk assessments for each hazard and the results of the citizen survey, documented existing plans and ordinances, identified critical facilities, and confirmed socio-economic data the Task Force met in January 2008 to formulate goals and objectives for the plan. To facilitate this process the members and others from the general public who were in attendance broke out into six small groups led by Staff of the Planning Commission. The sessions began with a 10-minute period during which everyone wrote down on post-it notes the many different ways they would end the sentence “During a natural hazard event a prepared community is a place where ...”. The participants then grouped the responses through discussion and consensus according to common themes by posting them on large sheets of paper attached to the wall. After all the responses were categorized a goal statement was created for each grouping.

The six small groups then reconvened and reported to the full Task Force the results of their work. There were common themes expressed. Following the meeting the Planning Commission Staff consolidated the goal statements along the four common themes. These were approved as the final goal statements at the February Task Force meeting.

- | | |
|--------|--|
| Goal 1 | Maintain and improve communication and cooperation between Sangamon County residents, government, and the private sector. |
| Goal 2 | Protect the lives, health, and safety of the people and animals of Sangamon County from the impact and effects of natural hazards. |
| Goal 3 | Protect existing infrastructure and design new infrastructure to be resilient to the effects of natural hazards. (roads, bridges, mass transit, utilities, water supplies, sewers, dams) |
| Goal 4 | Incorporate natural hazard mitigation into community plans and regulations. |

The goals were not prioritized and the goal numbers are purely arbitrary.

HAZARD MITIGATION OBJECTIVES

The many responses generated through the above described exercise were formulated into objectives by Planning Commission Staff. These objectives were also approved by the Task Force at the February meeting.

HAZARD MITIGATION ACTIVITIES

Following adoption of the goals and objectives at the February meeting, Task Force members and others from the general public who were in attendance spent ten minutes writing ideas down on post-it notes for mitigation projects. Everyone then placed their ideas on large sheets of paper hanging on the walls designated with a specific objective under one of the goals. Those in

attendance then broke out into four groups (one group per goal) led by Planning Commission staff to discuss the relationship between the projects and the goals and objectives.

Following the meeting, Planning Commission Staff created a project list by goal and objective showing all the suggestions submitted. The list was then sent to all Task Force members. It was suggested to the community representatives that the list be used as a basis for discussion with community leaders on projects that would be appropriate for their village or city. The project ideas came from people who had spent several months considering the subject of natural hazards. Of course, communities were not limited to the projects on the list.

Following is a list of the final community and agency projects by goal and objective.

GOALS, OBJECTIVES, AND MITIGATION ACTIONS

Goal 1 Maintain and improve communication and cooperation between Sangamon County residents, government, and the private sector.

Objective 1.a. Establish adequate warning systems to alert the community to impending natural hazard events.

- Install lightning warning signage at parks – Auburn, Riverton, Springfield Park District
- Signs to warn of storm hazards – Auburn
- Provide weather radios to Village residents – Cantrall, Divernon, Southern View, Williamsville
- Utilize automated telephone system to notify residents of impending natural hazards – Chatham
- Install a storm siren – Curran, New Berlin, Southern View
- Create education program regarding the use of weather radios – Sangamon County
- Explore the possibility of developing/purchasing a reverse 911 system for the City of Springfield, Sangamon County, and E-911 – Springfield
- Develop/purchase a text messaging/e-mail alert system – Springfield
- Siren testing once a month - Thayer
- Obtain bulk purchases of crank weather radios – American Red Cross

Objective 1.b. Provide a system to monitor developing natural hazard event situations.

- Install monitors at Combined Sewer Overflows to assist with flood tracking and warnings – Springfield Metro Sanitary District

Objective 1.c. Establish a method of communicating with the community after a natural hazard event to keep everyone updated on the status of recovery.

- Utilize automated telephone for information transfer after natural hazard events - Chatham
- Educate the public on the County's road condition warning system – Sangamon County

- Purchase two-way radios for use during a natural hazard event situation - Sherman

Objective 1.d. Coordinate response plans with all levels of government, appropriate private agencies, and volunteers.

- Develop response plans to ensure all small communities are involved – Sangamon County
- Maintain current working response groups – Sangamon County

Goal 2 Protect the lives, health, and safety of the people and animals of Sangamon County from the impact and effects of natural hazards.

Objective 2.a. Provide storm shelters and cooling centers for residents.

- Storm-tornado shelter to hold 100 people - Auburn
- Retrofit Village Hall to serve as a storm shelter –Buffalo
- Construct a safe room – Curran, Riverton
- Purchase emergency generator for High School emergency shelter – New Berlin
- Establish warming/cooling stations – Rochester
- Include safe room in new Middle School - Rochester
- Work with state legislators to provide business tax credit for manufactured home parks that install storm shelters – Sangamon County
- Work with local humane groups to explore the possibility of creating accommodations for pets displaced by natural hazard events in Sangamon County – Sangamon County
- Shelter in new Village Hall - Sherman
- Establish, install, or identify storm shelters for existing mobile home developments – Springfield
- Have an engineer evaluate the Headstart School Building/Community Center for a safe area – Thayer
- Purchase a generator for safe haven - Thayer
- Inform people on where to go when power is out – Williamsville
- Construct safe shelters at parks – Springfield Park District

Objective 2.b. Educate residents on the steps to take to protect themselves and their property from the impacts of natural hazard events.

- Provide information on natural hazards preparation through Neighborhood Watch – Jerome
- Distribute information on potential flooding in the community - Rochester
- Create education materials regarding the importance of erosion control – Sangamon County
- Create education program for builders and home owners regarding building designs that will provide protection during hazard events – Sangamon County
- Create and present school programs regarding the many aspects of natural hazards – Sangamon County

- Prepare mine subsidence informational materials – Sangamon County
- Educate citizens regarding proper actions to take to mitigate and prepare for a natural hazard – Auburn, Divernon, Illiopolis, Sherman, Southern View, Springfield, Thayer
- Educate the public on underground mines – Williamsville
- Take the lead on educating residents to take steps to protect themselves - American Red Cross
- Educational displays at parks – Springfield Park District

Objective 2.c. Educate local businesses on the steps to take to protect their employees, assets, and property from the impacts of natural hazard events.

- Take the lead on educating local businesses on steps to take to protect their employees – American Red Cross

Objective 2.d. Identify the most vulnerable populations in the community.

- Use GIS and latest aerial photography to review/update inundation impact below the Lake Sangchris dam – Sangamon County
- Identify at risk populations within the Community and establish a listing for these – Southern View, Springfield, Thayer

Objective 2.e. Support volunteer mitigation efforts that allow residents/businesses/agencies to work together in neighborhoods and the community to assist those who are vulnerable to the impacts of natural hazards.

- Create volunteer network for checking on citizens with disabilities during storm/inclement weather - Riverton
- Distribute “Okay/Need Help” signs for residents to use after a disaster - Thayer

Objective 2.f. Remove and/or limit placement of structures in the known paths of natural hazards such as flood, dam failure, mine subsidence.

- Acquire repetitively damaged flood prone property – Sangamon County, Springfield

Objective 2.g. Maximize immunity to natural hazards for critical facilities and services.

- Shatter proof glass for municipal building - Auburn
- Build dike to protect water plant from flooding – Dawson
- Flood protection for sewage pump house in Rochester Park – Rochester
- Shift main sewer line due to flooding erosion - Rochester
- Provide safe building design in new Community facilities – Sangamon County, Southern View, Springfield Mass Transit District
- Emergency pumps for storm/sewer/flood pumping – Springfield Metro Sanitary District
- Provide Vactor sewer cleaning trucks for emergency drain cleaning and flood clean up – Springfield Metro Sanitary District

- Establish tiered system for supply of fuel for generators, pump stations, plant operations – Springfield Metro Sanitary District

Goal 3 Protect existing infrastructure and design new infrastructure to be resilient to the effects of natural hazards. (roads, bridges, mass transit, utilities, water supplies, sewers, dams)

Objective 3.a. Assure power is available for essential services.

- Bury power lines to critical facilities – Chatham, Dawson, Riverton, Springfield, Thayer, Springfield Mass Transit District
- Develop electrical GIS system – Chatham
- Purchase backup generator for Village Hall - Jerome

Objective 3.b. Assure water is available in case of drought.

- Develop Emergency Action Plan in the event of a loss of the City water supply – Springfield

Objective 3.c. Build and maintain roads and bridges to provide safe passage of vehicles.

- Improve drainage/retrofit storm sewer – Curran
- Improve drainage by keeping culverts clean – Jerome
- Replace sidewalks and storm sewers – Pawnee
- Southwest storm sewer project – Pleasant Plains
- Improve drainage in 200 block of Blackburn - Riverton
- Explore the feasibility of installing snow fences along problem stretches of roads – Sangamon County
- Implement natural barrier area for Route 124 and Business Route 55 to mitigate blizzard road conditions - Sherman
- Construct water drainage system – Williamsville

Objective 3.d. Establish an inspection and maintenance program that monitors the condition of infrastructure.

- Pursue the improvement of drainage water coming from the new school - Cantrall
- Trim trees of excessive height and remove dead material – Curran
- Insist AmerenIP provide better maintenance work on trees close to power lines – Dawson
- Monitor condition of culverts - Rochester
- Create volunteer network to monitor condition of road culverts – Sangamon County
- Continue tree trimming efforts around power lines - Springfield

Goal 4 Incorporate natural hazard mitigation into community plans and regulations.

Objective 4.a. Adopt regulations that protect buildings (such as building codes).

- Promote the adoption of International Building Codes in Sangamon County communities and provide the opportunity to enter into inter-governmental agreement with the County Department of Zoning and Building Safety for enforcement – Sangamon County
- Adopt building codes to ensure safe buildings - Williamsville

Objective 4.b. Assure flood ordinance meets or exceeds minimum requirements for participation in the National Flood Insurance Program.

- Continue participation in the Community Rating System – Sangamon County
- Shoot elevations of buildings in the FEMA floodplain – Sangamon County

Objective 4.c. Assess local regulations (building codes, zoning ordinances, subdivision ordinances, public health codes, etc.) to determine how they can better address the impacts of natural hazards.

- Adopt erosion control ordinance – Sangamon County
- Create award program to recognize good erosion control practices – Sangamon County
- Assess local regulations to determine how they can better address the impacts of natural hazards - Sherman

Objective 4.d. Consider natural hazards when updating/creating plans for the community.

- Include natural hazard mitigation ideas in future changes/updates to the City Comprehensive Plan – Springfield
- Develop an Emergency Action Plan in the event of a breach of Spaulding Dam and/or Saddle Dam - Springfield

Objective 4.e. Update/create a response plan that addresses each natural hazard that could affect the community.

- Provide a mobile building permit department to be activated in damaged areas after a natural hazard event – Sangamon County
- Create an Emergency Services Disaster Plan - Thayer

MITIGATION ACTIONS - PRIORITIES AND IMPLEMENTATION

The Project Prioritization Committee created the following method for prioritizing actions. It is important to recognize that the implementation of all actions is desirable regardless of prioritized order. Actions assigned to Priority A have a permanent or more far-reaching affect than actions under Priority B, although both address the most significant natural hazards in the County. Priority C actions all address the less significant natural hazards. Priority J actions are ready for implementation within the next year and can be accomplished within existing budgets. All actions will aid in the mitigation effort and should be implemented as opportunities arise.

Project Prioritization Method

- Priority A** projects permanently eliminate property damages and/or eliminate or reduce injuries and deaths in a specific area OR have a high probability to systematically reduce property damages, injuries and deaths across a wide area. Priority A projects address the most significant natural hazards – extreme heat, flood, severe storm, tornado, and winter storm.
- Priority B** projects reduce property damages in a specific area OR have the potential to reduce property damages, injuries and deaths across a wide area OR educate the public on disaster preparedness and mitigation. Priority B projects address the most significant natural hazards – extreme heat, flood, severe storm, tornado, and winter storm.
- Priority C** projects eliminate or reduce property damages, injuries and deaths from the less significant natural hazards OR educate the public on disaster preparedness and mitigation related to the less significant natural hazards – dam failure, drought, earthquake and mine subsidence.
- Priority J** projects can “just be done” without requiring outside funding and are able to be implemented within one year of Plan adoption. These can be one-time projects or ongoing projects and may address any hazard.

COST/BENEFIT ANALYSIS

A cost/benefit analysis will be needed for any of these projects to be implemented. A cost/benefit analysis will be performed at the time of project selection.

Figure 47

**Natural Hazard Mitigation Projects by Community – Prioritized
(Including a Comprehensive Range of Actions for Each Hazard)**

Community	Priority	Project	Implementation Responsibility	Funding Sources	Time Frame	Hazard
Auburn	A	Storm/tornado shelter to hold 100 people	Auburn City Council	75% federal 25% Village	1 yr.	SS T
	B	Shatter proof glass for municipal building	Auburn City Council	75% federal 25% Village	6 mos.	SS T
	B	Signs to warn of storm hazards	Auburn City Council	75% federal 25% Village	6 mos.	SS T
	B	Lightning signs at baseball & football fields and parks	Auburn City Council	75% federal 25% Village	6 mos.	SS
	J	Educate residents to protect themselves & property	Auburn City Council	75% federal 25% Village	6 mos.	ALL
Buffalo	A	Provide central storm shelter: reinforce/upgrade Village Hall to survive storm disaster situations and be able to handle needs of citizens using building as a shelter	Buffalo Village Board	75% federal 25% Village	1 yr.	SS T
Cantrall	B	Look at improving drainage water coming from new school	Cantrall Village Board	Village	2 yrs.	F
	J	Provide weather radios for those in need	Cantrall Village Board	Village	1 yr.	SS, T, WS
Chatham	A	Bury power lines going to critical facilities	Chatham Electric Department	75% federal 25% Village	1 yr.	SS, T, WS
	J	Develop electrical GIS system	GIS/ Chatham Electric Department	75% federal 25% Village	1 yr.	SS, T, WS
	J	Utilize automated telephone system to notify residents of impending hazards as well as information transfer after storm	Chatham Village Board	Village	3 yrs.	ALL

Curran	A	Construction of safe room	Curran Village Board	75% federal 25% Village	2 yrs.	SS T
	B	Installation of storm siren	Curran Village Board	Village	1 yr.	SS, T
	B	Improve drainage/retrofit storm sewer	Curran Village Board	Village	1 yr.	F
	J	Trim trees of excessive height and remove dead material	Curran Village Board	Village	1 yr.	SS, T, WS
Dawson	A	Put power lines underground at the Village Hall	Dawson Village Board	75% federal 25% Village	2 yrs.	SS, T, WS
	B	Build a dike to protect the water plant from flooding	Dawson Village Board	75% federal 25% Village	3 yrs.	F
	J	Insist AmerenIP do better maintenance work on trees close to power lines	Dawson Village Board	no cost	1 yr.	SS, T, WS
Divernon	J	Give away weather radios to those who need one	Divernon Village Board	Village	1 yr.	SS, T, WS
	J	Brochures/newsletters sent out for weather emergencies, heating/cooling places, and what to do in case of emergency	Divernon Village Board	Village	1 yr.	ALL
Illiopoli	B	Educate residents and local businesses on steps they can take to protect their lives and property in a natural hazard event	Illiopoli Village Board	Village	1 yr.	ALL
Jerome	B	Purchase backup generator for municipal center	Jerome Village Board	Village	1 yr.	EH, SS, T, WS
	J	Distribute mitigation information through Neighborhood Watch	Jerome Police Department	Village	1 yr.	ALL
	J	Better drainage by keeping culverts clean	Jerome Public Works	Village	1 yr.	F
New Berlin	A	Emergency generator for high school emergency shelter	New Berlin School District Board	New Berlin School Dist.	1 yr.	SS, T, WS
	B	Outdoor siren for west end of Village limits (new residential and commercial area)	New Berlin Village Board	Village	1 yr.	SS T
Pawnee	B	Sidewalk and storm sewer replacement	Pawnee Village Board	State/Village	1 yr.	F
Pleasant Plains	B	Southwest storm sewer project – repair and maintenance	Pleasant Plains Village Board	Village	2 yrs.	F

Riverton	A	Bury power lines to Village wells	Riverton Village Board	75% federal 25% Village	1 yr.	SS, T, WS
	A	Create storm shelter(s) or safe room(s) for use in severe weather	Riverton Village Board	75% federal 25% Village	2 yrs.	SS, T, WS
	B	Drainage improvements in the 200 block of Blackburn	Riverton Village Board	Village/Riverton School District	1 yr.	F
	B	Erect signage “Ballparks to be evacuated during periods of lightning”	Riverton Village Board	75% federal 25% local	6 mos.	SS
	J	Create volunteer network for checking on citizens with disabilities during storm/inclement weather	Riverton Village Board	Village	6 mos.	ALL
Rochester	A	Safe room in middle school	Rochester School District	75% federal 25% School District	6 mos.	SS T
	B	Community information on potential flooding	Rochester Emergency Management	75% federal 25% Village	1 yr.	F
	B	Flood protection for Sewage Pump House in Rochester Park	Rochester Public Works Department	75% federal 25% Village		F
	B	Shifting main sewer line due to flooding erosion	Rochester Public Works Department	75% federal 25% Village	1 yr.	F
	J	Monitor condition of culverts	Rochester Public Works Department	Village	1 yr.	F
	J	Establish warming/cooling stations in Village	Rochester Emergency Management	Village/Citizens Corps	1 yr.	EH, SS, T, WS
Sangamon County	A	Acquire repetitively damaged flood prone properties	Regional Planning Commission	75% federal 25% County	ongoing	F
	A	Provide safe rooms in new County facilities	County Board	75% federal 25% County	ongoing	SS T
	B	Create education program for builders and home owners regarding building designs that will provide protection during hazard events	County Zoning Department	75% federal 25% Springfield Area Home Builders Assoc. and Energy Education Council	1 yr.	EA, F, MS, SS, T, WS
	B	Create and present school programs regarding the many aspects of natural hazards	County Zoning Dept. and County Public Health Dept.	75% federal 25% County	1 yr.	ALL
	C	Explore the feasibility of installing snow fences along problem stretches of road	County Highway Dept.	75% federal 25% County	2 yrs.	WS
	C	Provide a mobile building permit department to be activated in damaged	County Zoning Dept.	County	3 yrs.	DF, EA, F, MS, SS, T,

		areas after a natural hazard event				WS
	C	Shoot elevations of buildings in the FEMA floodplain	County GIS Dept.	75% federal 25% County	2 yrs.	F
	J	Adopt Erosion Control Ordinance	County Board	County	6 mos.	F
	J	Create education materials regarding the importance of erosion control	County Zoning Dept. and County Highway Dept.	County	1 yr.	F
	J	Create volunteer network to monitor condition of road culverts	County Highway Dept.	County	2 yrs.	F
	J	Create award program to recognize good erosion control practices	County Board	County	1 yr.	F
	J	Create education program regarding the use of weather radios	County Office of Emergency Management	County	6 mos.	SS, T, WS
	J	Educate the public on the County's road condition warning system	County Board Office	County	1 yr.	WS
	J	Prepare mine subsidence informational materials	County Zoning Dept. and Regional Planning Comm.	County	1 yr.	MS
	J	Work with state legislators to provide business tax credit for manufactured home parks that install storm shelters	County Board and County Zoning Dept.	County	1 yr.	SS T
	J	Promote the adoption of International Building Codes in Sangamon County communities and provide the opportunity to enter into an inter-governmental agreement with the County Zoning Department for enforcement	County Zoning Dept.	building permit fees	1 yr.	EA F SS T WS
	J	Continue participation in the Community Rating System	Regional Planning Commission	County	ongoing	F
	J	Maintain current working response groups	County Office of Emergency Management	County	ongoing	ALL
	J	Develop response plans to ensure that all small communities are involved	County Office of Emergency Management	County	2 yrs.	ALL

	J	Use GIS and latest aerial photography to review/update inundation impact below the Lake Sangchris Dam	County GIS Dept. and County Office of Emergency Management	County	2 yrs.	DF
	J	Work with local humane groups to explore creating accommodations for pets displaced by natural hazard events in Sangamon County	County Animal Control Center	County	1 yr.	ALL
Sherman	A	Shelter in new Village Hall	Sherman Village Board	75% federal 25% Village	5 yrs.	SS T
	B	Implement natural barrier area for Route 124 and Business Route 55 to mitigate blizzard road conditions	Sherman Village Board and Zoning Department	75% federal 25% Village	6 mos.	WS
	J	Publication of a preparedness brochure	Sherman Mitigation members	75% federal 25% Village	1 yr.	ALL
	J	Purchase two-way radios for use during a natural hazard event situation	Sherman Mitigation members	Village	6 mos.	ALL
	J	Assess local regulations (building codes, zoning ordinances, subdivision ordinances, public health codes, etc.) to determine how they can better address the impacts of natural hazards	Sherman Village Board and Zoning Department	Village	1 yr.	ALL
Southern View	A	Design and construct new municipal building to withstand severe weather	Southern View Village Board	75% federal 25% Village	3 yrs.	SS, T, WS
	B	Supplement to civil defense siren system	Southern View Village Board	Village	3 yrs.	SS T
	J	Provide weather radios to citizens who can't afford them	Southern View Village Board	Village	3 yrs.	SS, T, WS
	J	Identify residents with special needs and coordinate with neighborhood watch lists to provide assistance in seeking shelter and during recovery	Southern View Village Board	Village	3 yrs.	ALL
	J	Create pamphlet specific to Southern View with information regarding preparation and recovery related to natural hazard events	Southern View Village Board	Village	1 yr.	ALL

Springfield	A	Establish, install, or identify storm shelters for existing mobile home developments	Springfield Dept. of Public Works	75% federal 25% City	1 yr.	SS T
	A	Bury power lines to critical infrastructure facilities	City Water, Light and Power- Electric Division	75% federal 25% City	1 yr.	SS, T, WS
	A	Acquire repetitively flood-damaged properties in the floodplain	Springfield Dept. of Public Works/Regional Planning Commission	75% federal 25% City	on going	F
	B	Educate citizens regarding proper actions to take to mitigate and prepare for natural hazards	Springfield Homeland Security	75% federal 25% City	1 yr.	ALL
	C	Develop Emergency Action Plan in the event of a breach of Spaulding and/or Saddle Dams	City Water, Light and Power- Water Division	City	1 yr.	DF
	C	Develop Emergency Action Plan in the event of a loss o the City water supply	City Water, Light and Power- Water Division	City	1 yr.	DR
	J	Explore possibility of developing/purchasing a reverse 911 system for the City of Springfield, Sangamon County, and E-911	Springfield Homeland Security	City, County, E-911	1 yr.	ALL
	J	Develop/purchase a text messaging/e-mail alert system	Springfield Homeland Security	City	1 yr.	ALL
	J	Include natural hazard mitigation ideas in future changes/updates to the City Comprehensive Plan	Springfield Dept. of Public Works	staff time	on going	ALL
	J	Identify at-risk populations within the community and establish a listing for these	Springfield Community Relations/Homeland Security	staff time	1 yr.	ALL
	J	Continue tree trimming efforts around power lines	City Water, Light and Power- Electric Division	City	on going	SS, T, WS

Thayer	A	Have an engineer evaluate the Headstart School Building/Community Center for a safe area	Thayer Village Board	75% federal 25% Village	1 yr.	SS T
	A	Bury power lines to critical facilities	Thayer Village Board	75% federal 25% Village	2 yrs.	SS, T, WS
	B	Backup generator for safe haven	Thayer Village Board	Village	2 yrs.	ALL
	J	Siren testing once a month	Thayer Village Board	Village	1 mo.	SS, T
	J	Prepare a list of at-risk citizens	Thayer Village Board	Village	3 mos.	ALL
	J	Develop a list of supplies to have on hand	Thayer Village Board	Village	3 mos.	ALL
	J	Construct "Okay/Need Help" signs for residents to put in their window during a natural disaster	Thayer Village Board	Village	6 mos.	ALL
	J	Have an ESDA Plan	Thayer Village Board	Village	3 mos.	ALL
Williamsville	B	Construct water drainage systems	Williamsville Village Board	Village	2 yrs.	F
	C	Educate public on underground mines	Williamsville Village Board	Village	6 mos.	MS
	J	Assistance to public (priority to special needs) to obtain emergency radios	Village Board	Village	1 yr.	SS, T, WS
	J	Let people know where to go when power is out	Village Board	Village	6 mos.	EA, EH, SS, T, WS
	J	Adopt building codes	Village Board	Village	1 yr.	EA, F, SS, T, WS
American Red Cross – Illinois Capital Area Chapter	B	Take the lead on educating residents to take steps to protect themselves	Colleen Stone	75% federal 25% Red Cross	6 mos.	ALL
	B	Take the lead on educating local businesses on steps to take to protect their employees	Kyle Belz	75% federal 25% Red Cross	6 mos.	ALL
	J	Assist with obtaining bulk purchasing of crank weather radios	Colleen Stone	75% federal 25% Red Cross	6 mos.	SS, T, WS
Springfield Mass Transit District	A	Include wind resistance and seismic activity in design and construction of multimodal center	SMTD Board	75% federal 75% SMTD	7 yrs.	EA, SS, T
	A	Bury power lines to existing mass transit facility	SMTD Board	75% federal 25% SMTD/TRC	1 yr.	SS, T, WS

Springfield Metro Sanitary District	B	Emergency pumps for storm/sewer/flood pumping	SMSD and City of Springfield Public Works	SMSD	1 yr.	F
	B	Provide Vactor sewer cleaning trucks for emergency drain cleaning and flood clean up	SMSD and City of Springfield Public Works	SMSD	6 mos.	F
	B	Install monitors at Combined Sewer Overflows to assist with flood tracking and warnings	SMSD and City of Springfield Public Works	SMSD	2 mos.	F
	J	Establish tiered system for supply of fuel (gasoline and diesel) for generators, pump stations, plant operations	SMSD	SMSD	6 mos.	EA, F, SS, T, WS
Springfield Park District	A	Construct safe shelters at Centennial Park and the new Southwind Park	Springfield Park District Board	75% federal 25% Park District	1-3 yrs.	SS T
	B	Educational display at Southwind Park	Springfield Park District Board	75% federal 25% Park District	1 yr.	SS T
	B	Lightning warning signage throughout Park District	Springfield Park District Board	75% federal 25% Park District	1 yr.	SS

DF – Dam Failure

DR - Drought

EA – Earthquake

EH – Extreme Heat

F – Flood

MS – Mine Subsidence

SS – Severe Storm

T – Tornado

WS – Winter Storm

Chapter 4 Monitoring, Evaluating, and Updating the Plan

The Natural Hazards Mitigation Plan is an action document based on the assessment of risks to the participating communities. It contains projects to be implemented but also serves as a tool to integrate the concept of natural hazards mitigation into comprehensive planning efforts and regulatory structures. Each project included in the plan has been assigned to a specific party for implementation. However, as communities grow, weather patterns change, or other variables take on a modified significance, the Hazard Mitigation Plan will need to be reviewed and updated.

The strategy for monitoring and evaluating the Plan is the formation of a Workgroup consisting of all community representatives and three technical partners who volunteered to continue their involvement. Upon adoption of the Plan, the initial Workgroup will be structured as shown on the next page.

The Workgroup members will be responsible for monitoring implementation of the Plan by their communities. Monitoring the Plan assures that the many parties identified for implementation of projects remain aware of their responsibilities and that community leaders will continue to integrate natural hazards mitigation into local planning mechanisms. Workgroup members will also evaluate the Plan in relation to changing circumstances.

The Workgroup will meet at least twice a year to review the progress of the communities in implementing the Plan and to prepare a progress report to be submitted to the governing bodies of all communities. The report will include an evaluation of the Plan and identify any areas that may need to be revisited. The report year will start on the date the first community adopts the Plan. Each meeting will provide time for the Workgroup members to network and explore opportunities for working together in mitigation efforts.

Every five years the Plan will be updated taking into account changing circumstances and risks. The Workgroup may schedule additional meetings for this process which needs to start early enough to provide adequate time for the review, concurrence, and adoption of each community and the approval of FEMA by the five-year anniversary date of the first community's adoption of the Plan. Any non-participating community may choose to join the Multi-jurisdictional Plan at this time and will be responsible for providing all information needed to be integrated into the Plan.

Public participation will remain a vital part of the planning process. The website established by the Regional Planning Commission will be maintained, meetings will be open to the public, meeting notices will be posted in communities, and the media will be notified of meetings and Plan reports and updates.

Initial Maintenance Workgroup of the
Sangamon County Multi-jurisdictional Natural Hazards Mitigation Plan

Derrick Pehlman – Rochester, Chair
Brian Wood – Thayer, Vice-chair
David Butt – Sangamon County Office of Emergency Management, Secretary

Mike White – Auburn
Charles Thaxton – Buffalo
Jerry Olson – Cantrall
Patrick McCarthy – Chatham
Brian Markley – Curran
Jamie Sponsler/Nancy Prytherch – Dawson
John Caudle – Divernon
Josh Hilbert - Illiopolis
Greg Hashman – Jerome
Terry Nydegger – New Berlin
Cecil Mathews - Pawnee
Kevin Kesselring – Pleasant Plains
Rich Pottier – Riverton
Jay Timm – Sherman
Hilda Mangiaracina – Southern View
Al Pinter – Springfield
Paul Osman – Williamsville
Linda Fulgenzi- Sangamon County
Louis Delaby – Rural Electric Convenience Cooperative
Steve Sturm – Springfield Area Home Builders Association

Appendix A – Community Participation Documents

RESOLUTION

WHEREAS, adopting a natural hazards mitigation plan would benefit the Village of _____ by identifying activities that could mitigate the impact of natural hazards events on the citizens of the Village and provide eligibility for the Village to receive federal hazard mitigation grant funding; and

WHEREAS, the Village of _____ has limited resources to undertake the preparation of a natural hazards mitigation plan; and

WHEREAS, the Springfield Sangamon County Regional Planning Commission has received a grant from the Federal Emergency Management Agency to prepare a multi-jurisdictional natural hazards mitigation plan for Sangamon County; and

WHEREAS, the Springfield Sangamon County Regional Planning Commission is preparing a multi-jurisdictional natural hazards mitigation plan in accordance with 44 FEMA requirements at 44 C.F.R. 201.6; and

WHEREAS, the Springfield Sangamon County Regional Planning Commission will provide opportunities for public comment during the planning process and prior to adoption.

NOW THEREFORE, The _____ Village Board authorizes the Springfield Sangamon County Regional Planning Commission on behalf of the Village of _____ to prepare the Sangamon County Multi-jurisdictional Natural Hazards Mitigation Plan which shall be reviewed and considered for adoption by the _____ Village Board upon completion. A representative from the Village will be appointed by the Village President to participate in meetings, provide information needed for the plan, facilitate opportunities for public involvement, and act as a liaison between the multi-jurisdictional natural hazards mitigation planning task force and the Village Board.

ADOPTED this _____ day of _____, 2007 at the meeting of the _____ Village Board.

_____, President

VILLAGE OF _____ CONTACT INFORMATION

_____, President
Village of _____
ADDRESS

Phone # _____

E-mail _____

Representative appointed to Multi-jurisdictional Natural Hazards Mitigation Planning Task Force:

Name: _____

Address: _____

Phone #: _____

E-mail: _____

The above named person is authorized to represent the Village of _____ on the Multi-jurisdictional Natural Hazards Mitigation Planning Task Force and will participate in all activities associated with development of the Plan.

_____, President
Village of _____

Appendix B – Stakeholder Representative Form

(Organization Name) - CONTACT INFORMATION

Address _____

Phone # _____

E-mail _____

Representative appointed to Multi-jurisdictional Natural Hazards Mitigation Planning Task Force:

Name: _____
Address: _____

Phone #: _____

E-mail: _____

The above named person is authorized to represent _____ on the Multi-jurisdictional Natural Hazards Mitigation Planning Task Force and will participate in all activities associated with development of the Plan.

Director

Appendix C – One of Seven Press Releases

For Immediate Release

Contact: Linda Wheeland
LindaW@co.sangamon.il.us
(217) 535-3110

Springfield-Sangamon County Regional Planning Commission Receives FEMA Grant

Grant Allows Implementation of Multi-jurisdictional Natural Hazards Mitigation Plan

Springfield, IL September 25, 2007 — The Springfield-Sangamon County Regional Planning Commission has been awarded a contract for a Hazard Mitigation Planning grant in the amount of \$46,167 from the Federal Emergency Management Agency. This grant will fund 75% of the cost of plan preparation. The Regional Planning Commission will facilitate development of the plan and Sangamon County will provide the remaining 25% through staff involvement.

A task force will be created, with representatives from each community in Sangamon County that chooses to participate, as well as technical partners and other stakeholders. The first meeting will be held October 10, 2007 at 5:30pm in the County Board Chamber located on the 2nd floor of the Sangamon County Complex, 200 S. Ninth Street. Meetings will be held monthly and public participation is strongly encouraged. Citizens of Sangamon County are welcome to attend every meeting of the task force.

"The development and maintenance of a Hazard Mitigation Plan is important to the welfare of all of us in Sangamon County," said Springfield-Sangamon County Regional Planning Commission Executive Director Norm Sims. "Any one of us could be affected by a future natural disaster, and this plan will help the Commission to identify these hazards and find ways to mitigate their effects on our communities and families. We hope that all of the communities in the area take part in this effort."

The advantages of having a hazard mitigation plan include protecting citizens and property from the effects of hazards such as tornadoes, flooding and winter storms. Any community that has a hazard mitigation plan that is compliant with the Disaster Mitigation Act of 2000 is eligible for hazard mitigation grant money from FEMA. The purpose of this plan is to reduce the loss of life and property due to natural disasters by identifying mitigation measures that can be implemented prior to a disaster.

Specific opportunities for public input will be available. For further information on participation opportunities visit <http://co.sangamon.il.us/departments/regionalplanning/HazardPlan.asp>

For more information call Linda Wheeland at (217) 535-3110 or email
HazardPlan@co.sangamon.il.us

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Appendix D – Poster

Natural Hazard Events And You

Many communities in Sangamon County have come together to create a plan that, when implemented, will lessen the impact of natural hazard events on our communities. The following communities are participating in this effort:

Auburn	Buffalo	Centerville	Chatham
Carroll	Davison	Dresden	Grandview
Illinois	Jermore	New Berlin	Pawnee
Pleasant Plains	Riverton	Recherster	Sherman
Southern View	Springfield	Thayer	Williamsville
Sangamon County			

Natural hazards that can affect communities in Sangamon County as rated by the Illinois Emergency Management Agency

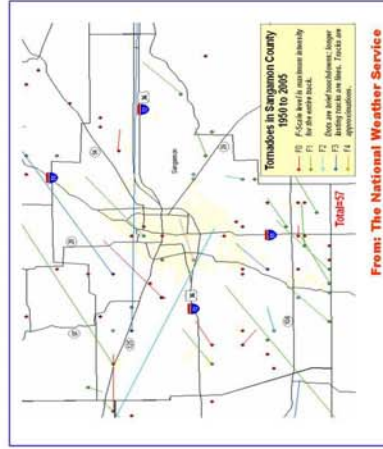
These ratings factor in probability of the hazard occurring, percentage of population exposed to the hazard, severity of past impacts, current population and population growth. Overall, Sangamon County rates as having a medium probability, low future growth. Available weather data from 1950 – 2003 was used as the basis for these ratings.

Drought The County experienced no droughts. This meant it had low probability, low vulnerability, and low severity.	Guarded
Earthquake The County has no recent earthquake activity, but is within an area of slight earthquake possibilities. However, it was rated highly vulnerable.	Elevated
Floods The County experienced 20 floods, with 3 deaths, 1 injury, and \$100 million dollars in damages. This gives it ratings of medium probability, low vulnerability (small proportion of the population affected), and high severity (amount of damage).	High
Extreme heat The County experienced 4 episodes of extreme heat, causing 8 deaths. This gave it low probability (since extreme heat is rare), medium vulnerability (due to the proportion of the county likely exposed to extreme conditions), and high severity (due to the number of deaths).	High
Tornadoes The County experienced 52 tornadoes, with 3 deaths, 56 injuries, and almost \$8 million dollars in damage. This gave it ratings of medium probability, low vulnerability, and medium severity.	High
Severe storms The County experienced 223 storm events (thunderstorms, lightning, and hail), causing 1 death, 80 injuries, and \$10 million property damage. This gave it high probability, high vulnerability, and medium severity.	Severe
Severe winter storms The County experienced 18 severe winter storms, causing 11 deaths, 39 injuries, giving it a rating of medium probability, high vulnerability, and high severity.	Severe

Additional natural hazards: Dam Failure
Land Subsidence



Ice Storm, January, 2007



Appendix E – Citizen Survey

Sangamon County Multi-jurisdictional Natural Hazards Mitigation Plan Citizen Survey

Tornados, severe storms, floods, and other natural hazards in Sangamon County caused at least 26 deaths, 176 injuries, and \$118 million in property damage from 1950 - 2003.

Mitigation of natural hazards means reducing the damage and hardship that can result from them.

Your input is needed in the development of a plan to lessen the impact of natural hazard events on our communities. The information provided on this survey will assist the Task Force working on this plan to determine activities that should be implemented to protect lives and property in the event of a natural hazard event. Your experiences and ideas are an important part of this effort.

Submit by **December 21, 2007** to: Springfield Sangamon Regional Planning Commission
200 S. 9th St. Room 212 Springfield, IL 62701 or complete online at www.co.sangamon.il.us/NHMP.

Please check all that apply regarding your experiences in Sangamon County with these natural hazard events:

	Dam failure	Drought	Earth- quake	Exteme heat	Flood	Thunder- storm	Winter storm	Tornado	Mine subsidence
Experienced in Sangamon County									
Personal injury/health concern									
Wind damage to home									
Wind damage to place of work									
Wind damage to outbuilding									
Water damage to home									
Water damage to place of work									
Water damage to outbuilding									
Lightning damage to building									
Lightning damage to electrical power									
Other damage to home									
Other damage to place of work									
Other damage to outbuildings									
Power outage									
Sewer backup									
Impassable road									
Traffic accident									
Crop damage									
Other:									

1. What actions do you think could be taken by individuals or the community to reduce damages and hardships caused by natural hazard events?

(OVER)

2. Where do you go for information when a natural hazard occurs near you? (Check your top 3 sources.)

- | | |
|---|---|
| <input type="checkbox"/> Local television station | <input type="checkbox"/> Weather channel |
| <input type="checkbox"/> Local radio station | <input type="checkbox"/> Weather radio |
| <input type="checkbox"/> Local newspaper | <input type="checkbox"/> Non-profit organizations |
| <input type="checkbox"/> City/Village | <input type="checkbox"/> Sangamon County |
| <input type="checkbox"/> State of Illinois | <input type="checkbox"/> Utility company |
| <input type="checkbox"/> Internet | <input type="checkbox"/> Other _____ |

3. Whom do you trust for information about preparing your home and family for natural hazards?
(Check all that apply.)

- ☐ News media (television, newspaper, radio)
☐ Local governmental agencies (such as Village Board, Street Department, etc.)
☐ State governmental agencies (such as Illinois Emergency Management Agency)
☐ Federal governmental agencies (such as the Federal Emergency Management Agency)
☐ College or university
☐ Non-profit organizations (such as the American Red Cross, Salvation Army)
☐ Utility companies ☐ Other: _____

4. Did you consider the possible occurrence of any natural hazards when you bought, built, or moved into your current home?

- ☐ Yes; please specify: _____
☐ No

5. Have you volunteered during disaster recovery efforts after past natural hazards?

- ☐ Yes
☐ No

6. Would you consider volunteering to help your community prepare for natural hazards?

- ☐ Yes
☐ Depends on what is required: _____
☐ No

7. What other issues/ideas should the Sangamon County Multi-jurisdictional Natural Hazards Mitigation Plan Task Force consider in developing this plan?

8. Please indicate: Which community you live in _____
Or if you live in unincorporated Sangamon County _____

THANK YOU for taking the time to provide your input to the natural hazards mitigation plan.

Appendix F – Newspaper Articles

Sunday, November 18, 2007

INSIDE
A la carte • Page 14

BUSINESS

THE STATE JOURNAL-REGISTER • SPRINGFIELD, ILLINOIS

Countywide master plan sought for disasters

The technical name is jargon dry. "SANGAMON COUNTY MULTI-JURISDICTIONAL NATURAL HAZARDS MITIGATION PLAN."

Behind it is an effort by county planners and 18 communities, including Springfield, to come up with plans for better protecting homes and businesses from the kind of damage we became all too familiar with the last couple of years following twin tornadoes, two ice storms, a blizzard and what has at least verged on the edge of drought.

"We received the grant money to prepare this right after the (March 2004) tornadoes, but it's something we'd been thinking about," said Linda Wheeler, a senior planner with the Springfield-Sangamon County Regional Planning Commission.



TIM LANDIS

This isn't zoning regulation. Each community, and the county, will come up with its own ideas on ways to best reduce damage from severe weather — perhaps more warning sirens, stronger building codes, better storm sewers, keep buildings out of flood-prone areas, burying power lines or designating community storm shelters.

There already have been a couple of public task-force meetings of county planners and representatives from each of the communities. The next is scheduled for 5:30 p.m., Wednesday, Jan. 9 in the county boardroom of the Sangamon County Building, 200 S. Ninth St.

But at this point, said Wheeler, the technical planners are looking for "stories" from the public, as in real-life experiences that followed the weather disasters.

"We would like to know what their experiences were, what they've been through, and what ideas communities and individuals have of steps we can take before there's a disaster," Wheeler said.

The Federal Emergency Management Agency awarded a \$46,000 grant to cover 75 percent of the cost of the project, and the goal is to come up with recommendations for each community and the county by mid-2008.

An online survey also is planned.

Wheeler said a formal hazard-mitigation plan also could speed federal and state assistance in the wake of a disaster.

"Each community will adopt its own plan," she said, adding that the county board would have to approve the plan for unincorporated areas.

Information is available online: <http://co.sangamon.il.us/NHMP>, by e-mail, hazardplan@co.sangamon.il.us or by calling 535-3110.

Communities participating up to now include Auburn, Buffalo, Cantrall, Curran, Dawson, Diverson, GrandView, Illiopolis, Jerome, New Berlin, Pleasant Plains, Riverton, Rochester, Sherman, Southern View, Springfield, Thayer and Williamsville.

Tuesday, January 8, 2008

BUSINESS

Tim Landis,
business editor: 788-1536
tim.landis@sf-r.com

THE STATE JOURNAL-REGISTER • SPRINGFIELD, ILLINOIS

ASDAQ 2,499.46 ▼5.19

S&P 500 1,416.18 ▲4.55

AMEX 2,382.03 ▼0.43

NYSE 9,462.24 ▲30.21

RUSSELL 2000 723.95 ▲2.35

Weathering severe storms

*Communities
will plan ways
to be prepared to
reduce damage*

BY TIM LANDIS
BUSINESS EDITOR
tim.landis@sf-r.com

Representatives from 20 Sangamon County communities will meet Wednesday to discuss ways building codes and emergency-response plans can help reduce damage from severe weather.

The Springfield area has had plenty of examples the last two years — including twin tornadoes in 2006, a couple of ice storms and a blizzard.

"We want people to share their experiences with natural disasters and ideas on what communities or individuals can do to reduce the hardship," said Linda Wheeland, senior planner for the Springfield-Sangamon County Regional Planning Commission.

While it was not directly linked, the Federal Emergency Management Agency approved a \$46,000 grant to begin work on the mitigation plan shortly after two tornadoes struck Springfield in March 2006.

The grant covers about 75 percent of the cost of the project. Wheeland said the goal is to come up with a set of recommendations by the middle of this year. More than 100 suggestions were received during an

Making a plan

WHAT: Sangamon County Multi-Jurisdictional Natural Hazards Mitigation Plan. Goal is a series of recommendations by mid-2008 on ways to better protect homes and businesses from severe-weather damage.

COMMUNITIES PARTICIPATING: Springfield, Auburn, Buffalo, Cantrall, Chatham, Curran, Dawson, Divernon, Grandview, Illopolis, Jerome, New Berlin, Pawnee, Pleasant Plains, Riverton, Rochester, Sherman, Southern View, Thayer and Williamsville

WHAT NEXT? Public meeting at 5:30 p.m. Wednesday in the county board chamber, second floor of the Sangamon County Complex, 200 S. Ninth St. Public comment period at the end of the meeting. Additional information is available online: <http://co.sangamon.il.us/NHMP> by e-mail at hazardplan@co.sangamon.il.us or by calling 535-3110.

initial public comment period, she said.

Wheeland said each community, and the county, will come up with its own disaster-mitigation plan, perhaps including tougher building codes to reduce wind damage, upgraded sewage systems to control flooding, burying power lines and additional warning sirens.

The city of Springfield, for instance, replaced a 50-year-old siren system after the 2006 tornadoes. The \$983,000 cost was paid through a one-year, \$1-per-month surcharge on City Water, Light and Power bills.

Each community can adopt its own plan. The county will adopt guidelines for unin-

corporated areas.

Wheeland noted that communities that adopt formal plans will be eligible for federal disaster-mitigation grants to help pay for improvements.

Community discussion groups will focus on nine specific hazards at the Wednesday meeting — drought, earthquakes, extreme heat, flooding, mine subsidence, severe storms, tornadoes, winter storms and dam failure.

"Each community is going to commit to some type of mitigation," Wheeland said.

There also will be a public comment period at the end of the meeting.

Tuesday, February 12, 2008

BUSINESS

THE STATE JOURNAL-REGISTER • SPRINGFIELD, ILLINOIS

Tim Landis,
business editor, 788-1536
tim.landis@j-r.com

MSDAQ 2,320.06 ▲ 15.21

S&P 500 1,359.13 ▲ 7.84

AMEX 2,246.61 ▲ 16.65

NYSE 9,868.28 ▲ 45.18

RUSSELL 2000 699.75 ▲ 0.85

Plan to combat natural disasters is moving ahead

By TIM LANDIS
BUSINESS EDITOR
tim.landis@j-r.com

A menu of plans for reducing damage from natural disasters — ranging from tighter regulations on construction in floodplains to safe rooms in public facilities — should be ready for all Sangamon County communities this spring.

Representatives from each of the communities began working on the plan shortly after March 2006 tornadoes that hit the area and are expected to begin outlining mitigation options at a meeting Wednesday.

"We'll begin generating ideas for specific mitigation projects. This is the heart of the plan," said Linda Whisler, senior planner with the Springfield-Sangamon County Regional Planning Commission.

The commission received a \$46,000 federal

Next step

Public meeting at 5:30 p.m. Wednesday at the Jerome Municipal Center, 2901 Leeward St. Information also is available by contacting the regional planning commissioner at 535-3110 or by e-mail, hazardsplan@co.sangamon.il.us.

large President Harry S. Truman. The community of 1,200 was among the first to join the mitigation study.

The still-unfinished Coburn Furniture building at 1685 Wabash Ave. is a lingering reminder of the 2005 season. The store was repaired but not fully open.

"We had a couple of leaks, and the leaks would go away. They've even lowered the price on it," said Simmell.

Whisler said a draft proposal should be ready for public comment in May, and the final mitigation plan should be completed this summer.

Communities that adopt a plan also can qualify for hazard mitigation grants through the Federal Emergency Management Agency, but Whisler said each community would be free to choose its own measures.

Tim Landis can be reached at 788-1536.

Task force members

- Began meeting after tornadoes struck Springfield in March 2006.
- Coordinated by the Springfield-Sangamon County Regional Planning Commission.

- Includes representatives from Auburn, Buffalo, Cartrick, Chatham, Corns, Deersau, Divernon, Gannox, Hopedale, Jerome, New Berlin, Painesville, Pleasant Plains, Riverfront, Rochester, Sherman, Southern View, Springfield, Thayer and Williamsville.

Tuesday, April 8, 2008

BUSINESS

THE STATE JOURNAL-REGISTER • SPRINGFIELD, ILLINOIS

Tim Landis
business editor: 788-1536
tim.landis@sj-r.com

▲ 3.01 NASDAQ 2,364.83 ▼ 6.15 S&P 500 1,372.54 ▲ 2.14 AMEX 2,271.04 ▲ 5.02 NYSE 9,184.7

■ Natural disaster plan

A group that has been working on ways to reduce damage from natural disasters since shortly after tornadoes hit Springfield in March 2006 will discuss final recommendations at a public meeting scheduled for 5:30 p.m. Wednesday at the Jerome Municipal Center, 2901 Leonard St. in Jerome.

The Sangamon County Multi-Jurisdictional Natural Hazards Mitigation Plan Task Force has representatives from the county and 19 local communities. Among the final recommendations are greater availability of weather radios, "safe rooms" at major highway rest stops, burying critical power lines, stricter building codes and a tree-trimming program.

"We hope to have the final draft ready in mid-May, and then we'll give people about a month to take a look at it if they'd like, and then hold a public meeting on the final plan," said Linda Wheeland, a senior planner at the Springfield-Sangamon County Regional Planning Commission.

The Federal Emergency Management Agency awarded the commission \$46,000 to pay 75 percent of the study cost, with the remainder coming from the county.

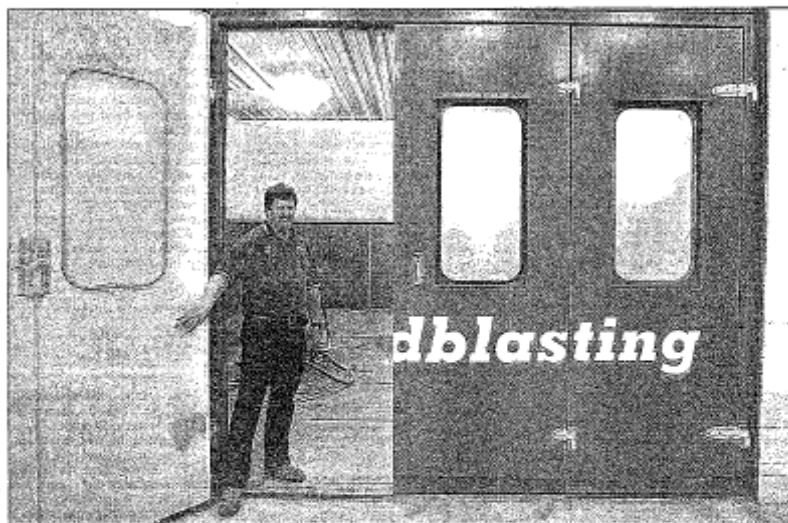
Wednesday, May 28, 2008

BUSINESS

THE STATE JOURNAL-REGISTER • SPRINGFIELD, ILLINOIS

Tim Landis,
Business Editor: 788-1536
tim.landis@sjr.com

THUNDERSTORMS ARE TOP THREATS



Purchase this photo at www.sjr.com/photos

Bob Mathews and other employees at Bill Mathews Auto Body take comfort in the security the sandblasting room can provide in case of a tornado.

T.J. Salzman/The State Journal-Register

Task force to hold hearing on recommendations June 11

By TIM LANDIS
BUSINESS EDITOR
tim.landis@sjr.com

Severe thunderstorms, winter storms, hail, extreme heat and tornadoes, in that order, are the most likely natural disasters to strike Sangamon County, a study of weather patterns for the past 50 years has concluded.

Flooding, earthquakes and mine subsidence are lesser threats.

A task force of city and county representatives compiled a top-10 list of natural-disaster threats as part of work on a countywide disaster-mitigation study begun shortly after twin tornadoes struck Springfield in March 2006.

The final public hearing on the recommendations — ranging from tougher building rules to voluntary removal of structures in floodplains — is the subject of a June 11 public hearing. After that, the plan will be submitted to the Federal Emergency Management Agency.

"Once FEMA reviews and approves it, communities can adopt

the plan, and they'll be eligible for hazard-mitigation grants from the federal government to pay some of the cost for implementing projects," said senior planner Linda Wheeland of the Springfield-Sangamon County Regional Planning Commission.

The commission, which received a \$46,000 grant to cover 75 percent of study costs, coordinated the report and five public meetings. Representatives of 19 Sangamon County communities, as well as representatives from the American Red Cross, Ameron Corp. and the University of Illinois at Springfield also participated.

Wheeland said the group hopes to have FEMA approval by mid-July.

The study of Sangamon County weather patterns was based on data from the National Weather Service and state and national climatologic reports from the past 50 years. The commission then came up with the 10 natural disasters most likely to cause damage in the county. The frequency of damaging storms was used to compute the annual probability.



File/The State Journal-Register

Employees clean up after the 2006 tornado struck the auto body shop.

While the threat from some disasters is considered minimal — including earthquakes, dam breaks and mine subsidence — a quake that rattled windows in the region last month was a reminder that other threats do exist.

"What we wanted to do here is get a risk assessment," Wheeland said.

Bill Mathews Auto Body is among Springfield businesses severely damaged by the 2006 tornadoes that already have taken steps recommended in the study to lessen damage from natural disasters. The auto point and repair shop on North Street was heavily damaged by the storms.

"We ended up going with an

Disaster-mitigation plan

Annual probability of a natural disaster in Sangamon County:

- Severe thunderstorm: 83 percent
- Winter storm: 75 percent
- Hail: 55 percent
- Extreme heat: 45 percent
- Tornado: 44 percent
- Flood: 35 percent

► Dam failure, earthquake, mine subsidence and drought, all considered minimal (While droughts have occurred, not enough data was available to compute a probability).

Recommendations

- Improve countywide communications system, including among communities.
- Better identify storm shelters and cooling centers, especially for the most vulnerable residents; encourage voluntary mitigation, such as removal of buildings from areas prone to flooding and other natural hazards.
- Secure power and water supplies in case of emergencies; design roads, bridges, water supplies and other services to better withstand natural disasters; establish inspection and maintenance programs.
- Stronger zoning and building codes to reduce damage; community natural-disaster response plans.

What's next?

► Final public hearing, 6:30 a.m., Wednesday, June 11, at Jerome Civic Center, 2901 Leonard St. in Jerome. Plan then goes to the Federal Emergency Management Agency. The draft plan can be viewed at <http://co.sangamon.il.us/nhmp/>.

Source: Natural Hazards Mitigation Plan Task Force

all-steel structure. The last time, we had a pole barn," said manager and co-owner Bob Mathews.

The company also reinforced a concrete sandblasting booth to serve as a storm shelter.

"It would have been about half the cost to do another pole barn, but we thought this was worth it," Mathews said.

Tim Landis can be reached at 788-1536.

Appendix G – Radio Coverage

News Radio 1240 WTAX Springfield, IL

Page 1 of 20

1240 WTAX NEWS RADIO

Fighting Illini Football on Newsradio 1240 WTAX!!
Morning Newswatch with Bob Murray bmurr

MORNING NEWSWATCH
NEWSWATCH AUDIO
ON-AIR SCHEDULE
WTAX NEWS TEAM
NEWS TIPS
WTAX SPORTS
SP'FLD CALENDAR
WTAX NEWS CLUB
PHOTO WALL
WTAX HISTORY
CONTESTS
CONTEST RULES
ASK THE PROFESSIONAL
EMPLOYMENT
CONTACT US

Retired Army Colonel Jeff McCausland talks with WTAX Morning News Watch Host Bob Murray on the anniversary of the "Troop Surge" in Iraq
The CBS Radio News Military Consultant details the "Surge" and details he requested "Troop Surge" for Afghanistan
[Click HERE to Listen](#)
January 10, 2008

The Springfield-Sangamon County Regional Planning Commission is looking to the future to reduce damage from severe weather events!
Linda Wheeland, Senior Planner at the Springfield-Sangamon County Regional Planning Commission talks with WTAX Morning News Watch Host Bob Murray
[Click HERE to Listen](#)
January 10, 2008

The "Boot Program" for motorists who have not paid their parking tickets here in Springfield gets going on Friday - January 11th
Springfield City Treasurer Jim Langfelder fills WTAX Morning News Watch Host Bob Murray in on how many scofflaws there are and how much they owe...and how the "Boot Program" will work
[Click HERE to Listen](#)
January 10, 2008

The Central Illinois Community Blood Center needs Hispanic Blood Donors
Why? Tara Matheson, Donor Recruiter for the Central Illinois Community

The Weather Channel Radio Network
Springfield's Weather Authority is NewsRadio 1240 WTAX! NewsRadio 1240 WTAX is now a part of the Weather Channel family. Listen to WTAX daily for the latest forecast and severe weather information direct from the Weather Channel experts. Click on Springfield, IL below to get the latest Weather Channel forecast.

News Radio 1240 WTAX Springfield, IL

Page 1 of 1

Morning Newswatch with Bob Murray

bmurray@wtax.com



Morning Newswatch with Bob Murray
Home
Focus

Morning Newswatch
Audio

Morning
Newswatch

The Citizens Club of Springfield has a special Friday morning presentation scheduled with experts to talk about Presidential Politics!

Bob Gray, Founder of the Citizens Club of Springfield, talks with WTAX Morning News Watch Host Bob Murray!

[Click HERE to Listen](#)

February 14, 2008



A Task Force made up of representatives from 20 Sangamon County Communities continues to work on "Natural Disaster Plans"!

WTAX Morning News Watch Host Bob Murray interviews Linda Wheeland, Senior Planner for the Springfield-Sangamon County Regional Planning Commission.

[Click HERE to Listen](#)



Appendix H – LEPC Meeting Agenda

Sangamon County LEPC

P.O. Box 2105, 2801 N. Fifth Street
Springfield, IL 62705-2105
(217) 747-5150

AGENDA

January 17, 2008

8:30 AM

Office of the State Fire Marshal
1035 Stevenson Drive
Springfield, IL 62703

Meeting called to order by David Butt, Chairman

Acceptance of minutes from last meeting (11/15/2007)

Recognition of LEPC members and visitors

Old Business

- Emergency Coordinator's Report on Progress of Site Specific Planning Project
 - New Plans Completed
 - Completed Plans Updated
 - New Sites Visited
- Department of Homeland Security "Chemical Security Assessment Tool"
- Local Exercises
- Other

New Business

- Summary Report Relative to LEPC Activities During 2007
- Filing of 2007 Tier 2 Forms During 2008
- Sangamon County Multi-jurisdictional Natural Hazards Mitigation Plan
- Other

Next meeting: March 20, 2008

Motion to adjourn

Appendix I – Planning Commission Meeting Minutes

MINUTES OF MEETING Springfield-Sangamon County Regional Planning Commission November 21, 2007

1. ROLL CALL.

Chairman Larry Eastep called the meeting to order. Roll call was then taken.

JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	COMMISSION MEMBERS
X	X	X	X	X								Larry Eastep, Chairman
X	X		X	X								Eric Hansen, Vice-Chairman
X	X	X	X	X								Claudio Pecori, Secretary
X	X	X										Mayor Tim Davlin – M. Farmer
			X									Alderman Mark Mahoney – J. Bland
		X	X	X								Alderman Sam Cahnman – J. Davis
	X		X									Andy Van Meter – R. McCrady
			X	X								Tim Moore
X	X	X	X	X								Andy Goleman – <u>C. Stratton</u>
	X	X		X								Leslie Sgro – <u>C. Perrin</u>
X	X	X	X	X								Frank Vala – <u>R. Blickensderfer</u>
X	X	X	X									Frank Squires – D. Austin
X	X	X	X	X								Dick Ciotti – <u>G. Humphrey</u>
			X									Cheryl Wise – D. Smith
X	X	X	X									Mike Galco
		X	X									Larry Hamlin
												Vacant (formerly Mike Franklin)

Others

Steve Schroll
Tim Sheehan

Staff

Norm Sims
Joe Zeibert
Dale Schultz
Abby Johnson
Mary Jane Niemann

2. **MINUTES OF MEETING.**

Chairman Eastep asked if there were any additions or corrections to the minutes of the October 17, 2007 Regional Planning Commission meeting. There were none. The minutes were accepted as mailed.

3. **MINUTES OF THE EXECUTIVE POLICY BOARD.**

Eastep stated that the Executive Policy Board met last month to regarding the FY-08 budget proposal. He asked Executive Policy Board members if there were any additions or corrections to the minutes of the October 17, 2007 Executive Policy Board meeting. There were none. The minutes were accepted as mailed. Eastep stated that the Executive Director would discuss the budget in his report.

4. **REPORT OF OFFICERS.**

There was no report of officers.

5. **REPORT OF THE EXECUTIVE DIRECTOR.**

(A) **EXECUTIVE POLICY BOARD** – Norm Sims stated that the Executive Policy Board acts as the oversight committee for the Regional Planning Commission. The purpose of the October 17, 2007 meeting was the proposed budget. Members of the Executive Policy Board are Larry Eastep, Eric Hansen, Claudio Pecori, Mayor Tim Davlin (Mike Farmer), County Board Chairman Andy Van Meter (Ryan McCrady), Linda Tisdale, and Larry Hamlin. The proposed budget submitted was \$1,060,598. The County Board approved \$1,061,651 with the difference being adjustments to fringe benefits. \$58,000 on the revenue side will be tapped from the Commission fund balance. Total expenditures match total revenues with the largest expense being personnel/fringe benefits in the amount of \$734,278. That figure allows for a 2.5% salary increase. Sims added that there will be slight restructuring of the staff so that specific areas of responsibility are recognized and career paths for junior staff are established. Four core task areas will be identified: Land Use Planning, Regional Planning, Transportation Planning and Development Planning. Susan Poludniak will be shifted from Senior Planner to Assistant Director, Linda Wheeland will shift to Transportation Planning allowing her old position as Land Use Planning to backfill and Joe Zeibert will take on additional responsibility for Development Planning. Sims stated that Mayor Davlin and County Board Chairman Andy Van Meter have expressed interest in the preparation of a regional comprehensive plan. A prospectus has been submitted to IDOT. The Senior Planner position vacated by Poludniak would only be filled if additional state funds (1201 funds) for comprehensive planning would become available. Sims noted that Commission members will be provided a copy of the FY-08 budget within the next two weeks.

- (B) **HAZARD MITIGATION PLAN** – Sims stated that a citizen survey has been prepared to gather public input regarding the Hazard Mitigation Plan. Sims encouraged Commission members to complete the survey which was available at the meeting. The survey is expected to be on the Planning Commission's website next week.
- (C) **PLANNING EVENTS** – Sims stated that several photos have been received in response to the SSCRPC's photo contest, Great Streets, Great Neighborhoods. The deadline for photo submission was mid-November. Staff is currently reviewing those submissions. What people seem to like is greenery/landscaping. Photos will be presented at next month's Planning Commission meeting.

6. **CORRESPONDENCE.**

There was no correspondence.

7. **PUBLIC HEARING.**

There was no one who wished to address the Commission.

8. **COMMITTEE REPORTS.**

Joe Zeibert summarized projects from previous Land Subdivision Committee meetings to come before the Regional Planning Commission.

Abundant Living Development - PUD

Plat 3 – Final Plat

Description: Pt. NW ¼, NE ¼, & Pt. NE ¼, NW ¼, Section 11, T15N, R5W

LSC Action: Recommend approval of the final plat.

Timberlake Estates Supportive Living

Abundant Living PUD - Site Plan

Description: Lots 7-8 of Abundant Faith PUD

LSC Action: Recommend approval of the site plan.

Sam Cahnman asked if the Timberlake Estates development would include manufactured housing. Zeibert said no, that it was an assisted living development.

Sunbelt Rentals

Site Development Plan

Description: Pt. W ½, SW ¼, Section 1, T15N, R5W

LSC Action: Recommend approval of the site development plan.

White Oaks Commons

Site Development Plan

Description: Pt. NW ¼, Section 7, T15N, R5W

LSC Action: Recommend approval of the site development plan.

Roger Blickensderfer asked if there was an existing traffic signal at Iles or if it would be new. Zeibert said there would be a new signal at Iles (entrance to development).

Gander Mountain Retail Store

Large Scale Development Plan

Variance of Sec. 153.157(B)(3)

Description: Lots 17-22, Prairie Crossing – Plat 2

LSC Action: Recommend approval of a Variance of Sec. 153.157(B)(3) and recommend approval of the large scale development plan.

SSCRPC Action: *Claudio Pecori moved to concur with the action of the Land Subdivision Committee on the above listed subdivisions. Chris Perrin seconded the motion and the vote was unanimous. Zeibert noted that the Site Development Plan of Sunbelt Rentals would be held until the final plat is approved by the City Council.*

9. UNFINISHED BUSINESS.

There was no unfinished business.

10. NEW BUSINESS.

There were no A-95 reviews.

11. ADJOURNMENT.

Since there was no further business, the meeting was adjourned.

Respectfully Submitted,

Mary Jane Niemann
Recording Secretary

Appendix J – Williamsville Village Board Meeting Minutes

MINUTES OF THE REGULAR BOARD MEETING

WILLIAMSVILLE, ILLINOIS

PAGE 2, NOVEMBER 26, 2007

Lee Miller spoke to President McCarty regarding his rebuttal of Mr. Miller's Tax Rebate letter. Mr. Miller requested copies of all committee meetings for the past six months.

Bob Harris thanked everyone for the 35 year recognition, the reception and gifts.

Paul Osman explained some of the things to be done for the Disaster Mitigation Plan. A link will be put on our website to link to the Hazard Mitigation website. A poster will be on display in the village hall for a month or two. The survey will be put in the newsletter.

Dave Knox discussed the school's financial difficulty. As the school board president he asked for any help possible. Without help cuts will have to be made. President McCarty said he would try to set up a meeting with Dave Root and Dave Knox to see what can be done.

Rick Rump asked why the Main Street project wasn't moving forward. President McCarty said the village cannot afford the payments. The project is not dead. The village will try to obtain outside funds to help with the project.

Billy Cooper said until his building is rebuilt he will run his business from Antonio's location in Sherman.

Trustee Swinford moved to adjourn, second by Trustee Melton. The regular board meeting adjourned at 8:17 pm.

Respectfully Submitted By

Carol Beal, Clerk

Appendix K – Sangamon County CRS Letter to Property Owners



September, 2007

«Field1»
«Field2»
«Field3»
«Field5», «Field6» «Field7»

Tax ID#:	«Field8»	«Field9»	«Field10»	«Field11»
	«Field12»	«Field13»	«Field14»	«Field15»
	«Field16»	«Field17»	«Field18»	«Field19»

Dear Sangamon County Property Owner:

Your property referenced above is in or near a special flood hazard area. The major sources of flooding in Sangamon County are the Sangamon River and the South Fork of the Sangamon River. However, many other creeks, as well as Lake Springfield, experience major flooding events.

Enclosed is information about flooding and floodplain regulations that we hope you find helpful. Please note that 5%-10% discount on flood insurance is available on property in unincorporated Sangamon County because a Community Rating System rating of 8 was assigned by the Federal Emergency Management Agency based on prevention activities undertaken by the County. This mailing is one of those activities. If you have any questions or comments, please contact Linda Wheeland of my staff at 535-3110.

Sincerely,

A handwritten signature in black ink, appearing to read "Norm Sims".

Norm Sims
Executive Director

NS/LW/mjn

Encl.

PLEASE NOTE: The Regional Planning Commission is preparing a natural hazards mitigation plan for Sangamon County to determine what actions can be taken prior to natural hazard events to lessen the impact of those events. If you are interested in learning more about development of the plan or providing input, go to our website <http://co.sangamon.il.us/NHMP> or call 535-3110.

Appendix L – Interested Parties Mailing List

Central Illinois Blood Bank
1134 S. 7th Street
Springfield, IL 62703

Helping Hands of Springfield Inc.
200 S. 11th. Street
Springfield, IL 62703

The Salvation Army
530 N. 6th Street
Springfield, IL 62702

Contact Ministries
1100 E. Adams
Springfield, IL 62703

Fifth Street Renaissance
1315 N. 5th Street
Springfield, IL 62702

Menard Electric
14300 State Hwy 97
Petersburg, IL 62675

Rural Electric Convenience
Cooperative
3973 W. State Rt. 104
Auburn, IL 62615

Curran-Gardner Water Dist.
3382 Hazzlett Road
Springfield, IL 62707

Otter Lake Water Commission
6475 W. Montgomery Road
P.O. Box 468
Virden, IL 62690

Apple Creek Water Cooperative
P.O. Box 131
Waverly, IL 62629

Lincoln Library
326 So. 7th Street
Springfield, IL 62701

Springfield College in Illinois
1500 N. 5th Street
Springfield, IL 62702

Insight Communications
701 S. Dirksen Pkwy.
Springfield, IL 62703

Springfield Center For
Independent Living
330 South Grand Ave. West
Springfield, IL 62704

Senior Services of Central IL
701 W. Mason
Springfield, IL 62702

Robert Morris College
3101 Montvale Drive
Springfield, IL 62704

U.S. Postal Service
2105 E. Cook
Springfield, IL 62703

Springfield Urban League
100 N. 11th Street
Springfield, IL 62703

Springfield Convention and
Visitors Bureau
109 N. 7th Street
Springfield, IL 62701

Springfield Housing Authority
200 N. 11th Street
Springfield, IL 62703

Ministrial Alliance of Springfield
P.O. Box 2501
Springfield, IL 62708
MAIL RETURNED

Greater Springfield
Interfaith Association
212 Deer Creek Rd.
Springfield, IL 62563

Downtown Springfield, Inc
3 Old State Capitol Plaza
Suite 5
Springfield, IL 62701

AT&T of Illinois
Attn: Teresa Mayer &
Rich Weigand
529 South 7th Street – Floor 3B
Springfield, IL 62721

Jill Horn
Auburn Township Supervisor
4670 Timberview Dr.
Auburn IL 62615

Mike Blankenship
Ball Township Supervisor
11910 Bubbling Well Road
Glenarm IL 62536

David Burrus
Buffalo Hart Township Supervisor
7238 Cornland Road - Box 163
Buffalo IL 62515

Tom Cavanagh
Capital Township Supervisor
200 So. 9th St., Room 102
Springfield IL 62701

Dan Kern
Cartwright Township Supervisor
9570 Salisbury
Pleasant Plains IL 62677

Don Stephens, Jr.
Chatham Township Supervisor
704 East Chestnut
Chatham IL 62629

Dennis Wieland
Clear Lake Twp. Supervisor
4200 Bissel Road
Springfield IL 62707

Robert Ramsey
Cooper Township Supervisor
9376 East State Route 29
Rochester IL 62563

Lawrence VanBoegart
Cotton Hill Township Supervisor
6999 Mottar Road
Rochester IL 62563

John Wilcox
Curran Township Supervisor
5771 West Iles Ave.
New Berlin IL 62670

Gary Carter, Sr.
Divernon Township Supervisor
221 West Dodd Street - Box 154
Divernon IL 62530

Kevin Forden
Fancy Creek Twp. Supervisor
1715 East Andrew Road
Springfield IL 62707

Fred Krueger
Gardner Township Supervisor
5870 P.E.C. Road
Springfield, IL 62707

Robert Kaylor
Illioopolis Township Supervisor
931 Miles
Illioopolis, IL 62539

John Yates
Island Grove Twp. Supervisor
12382 Tebbe Road
New Berlin, IL 62670

Charles K. Kilhoffer
Lanesville Township Supervisor
16300 Old Route 36
Buffalo, IL 62615

Janet Peecher
Loami Township Supervisor
297 Witt Street
Loami, IL 62661

Phillip Eck
Maxzwell Township Supervisor
14091 West Loami Road
New Berlin, IL 62670

Joseph Ross
Mechanicsburg Twp. Supervisor
1151 Buffalo Mechanicsburg
Road Box 109
Mechanicsburg, IL 62520

Richard King
New Berlin Township Supervisor
12318 Old Route 54
New Berlin, IL 62670

Colleen Scott
Pawnee Township Supervisor
4476 San Terra Road
Pawnee, IL 62558

Olaf W. Beard
Rochester Twp. Supervisor
540 S. Walnut
Rochester, IL 62563

Gary Budd
Springfield Township Supervisor
3212 Ridgewood
Springfield, IL 62702

Donald Duewer
Talkington Township Supervisor
18627 South Duewer Road
Waverly, IL 62692

Lee Miller
Williams Township Supervisor
42 Birch Lane
Williamsville, IL 62693

Don Casper
Woodside Township Supervisor
1818 Cherry Road
Springfield, IL 62704

August 2008

Appendix N – Notice of Public Meeting

THE STATE JOURNAL-REGISTER

Tuesday, May 27, 2008

NOTICE OF PUBLIC MEETING TO ACCEPT PUBLIC COMMENT

on The Sangamon County Multi-jurisdictional Natural Hazards
Mitigation Plan

Wednesday, June 11
5:30 pm
Jerome Municipal Building
2901 Leonard

The Plan assesses the risks to the County from natural hazard events and includes projects that will lessen the impact of natural hazard events on the communities participating in the planning process. The communities involved in this Plan are Auburn, Buffalo, Cantrall, Chatham, Curran, Dawson, Divernon, Illiopolis, Jerome, New Berlin, Pawnee, Pleasant Plains, Riverton, Rochester, Sherman, Southern View, Springfield, Thayer, Williamsville, and Sangamon County.

The draft plan is on the Natural Hazards Mitigation Plan website <http://co.sangamon.il.us/NHMP> and can also be reviewed at the office of the Springfield Sangamon County Regional Planning Commission in Room 212 of the County Building at 200 S. 9th Street from 8:00 – 4:30 Monday through Friday. Each community also has a copy of the draft plan. Please call the Planning Commission at 535-3110, e-mail HazardPlan@co.sangamon.il.us or visit our website at <http://co.sangamon.il.us/NHMP> for more information.

Appendix O – Adoption Resolution

RESOLUTION _____

WHEREAS, the Sangamon County Multi-jurisdictional Natural Hazards Mitigation Plan has been prepared by the Springfield Sangamon County Regional Planning Commission through the Sangamon County Multi-jurisdictional Natural Hazards Mitigation Plan Task Force; and,

WHEREAS, the Sangamon County Multi-jurisdictional Natural Hazards Mitigation Plan has been prepared in accordance with FEMA requirements at 44 C.F.R. 201.6; and,

WHEREAS, the Village of _____ is a local unit of government that has afforded the citizens an opportunity to comment and provide input to the Plan and the actions in the Plan; and,

WHEREAS, the _____ Village Board has reviewed the Plan and affirms to participate in the Workgroup that will review the Plan every year and update it no less than every five years;

NOW THEREFORE, BE IT RESOLVED by the _____ Village Board that the Village of _____ adopts the Sangamon County Multi-jurisdictional Natural Hazards Mitigation Plan as this jurisdiction's Multi-hazard Mitigation Plan, and resolves to execute the actions in the Plan.

ADOPTED this _____ day of _____, 2008 at the meeting of the _____ Village Board.

_____, President

Appendix P – Sources of Information for Plan

2000 Census Data

2007 Illinois Natural Hazard Mitigation Plan. October 2007

“Approaches to Mine Subsidence in Four U.S. Communities” by Len Meier and Robert Gibson

Countywide Flood Insurance Rate Maps. August 2, 2007

FEMA website <http://www.fema.gov/>

Illinois Department of Natural Resources Office of Mines and Minerals

Illinois State Climatologist Office website <http://www.sws.uiuc.edu/atmos/statecli/>

Illinois State Geological Survey website <http://www.isgs.uiuc.edu>

Mine Subsidence: A Guidebook for Local Officials by Southwestern Illinois Metropolitan and Regional Planning Commission. June 1983

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